



3Com® Switch 4050 and 4060 Getting Started Guide

3C17708, 3C17709

<http://www.3com.com/>

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Ensuring that all products can be recycled, reused and disposed of safely.

Ensuring that all products are labelled according to recognized environmental standards.

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REGULATORY NOTICES

ABOUT THIS GUIDE

This guide provides all the information you need to install and use a 3Com® Switch 4050 and 4060 in its default state.

The guide is intended for use by network administrators who are responsible for installing and setting up network equipment; consequently, it assumes a basic working knowledge of LANs (Local Area Networks).



Please refer to the CD-ROM that accompanies your Switch for the following:

- *Management Interface Reference Guide —an online guide which gives you detailed information on how to use the web interface and command line interface to manage the Switch.*
- *3Com Network Supervisor —a powerful network management tool for small to medium enterprise networks.*
- *A number of other useful applications.*
- *Other documentation relating to the Switch 4050 and 4060.*



If the information in the release notes that are shipped with your product differ from the information in this guide, follow the instructions in the release notes.

Most user guides and release notes are available in Adobe Acrobat Reader Portable Document Format (PDF) or HTML on the 3Com World Wide Web site:

<http://www.3com.com/>

Conventions

[Table 1](#) and [Table 2](#) list conventions that are used throughout this guide.

Table 1 Notice Icons

Icon	Notice Type	Description
	Information note	Information that describes important features or instructions.
	Caution	Information that alerts you to potential loss of data or potential damage to an application, system, or device.
	Warning	Information that alerts you to potential personal injury.

Table 2 Text Conventions

Convention	Description
Screen displays	This typeface represents information as it appears on the screen.
Syntax	The word “syntax” means that you must evaluate the syntax provided and then supply the appropriate values for the placeholders that appear in angle brackets. Example: To change your password, use the following syntax: <pre>system password <password></pre> In this example, you must supply a password for <password>.
Commands	The word “command” means that you must enter the command exactly as shown and then press Return or Enter. Commands appear in bold. Example: To display port information, enter the following command: <pre>bridge port detail</pre>
The words “enter” and “type”	When you see the word “enter” in this guide, you must type something, and then press Return or Enter. Do not press Return or Enter when an instruction simply says “type.”
Keyboard key names	If you must press two or more keys simultaneously, the key names are linked with a plus sign (+). Example: <pre>Press Ctrl+Alt+Del</pre>
Words in <i>italics</i>	Italics are used to: ■ Emphasize a point. ■ Denote a new term at the place where it is defined in the text. ■ Identify menu names, menu commands, and software button names. Examples: From the <i>Help</i> menu, select <i>Contents</i>. Click <i>OK</i>.

Related Documentation

In addition to this guide, each Switch documentation set includes the following:

- *Management Quick Reference Guide*

This guide contains:

- a list of software features supported by each Switch.
- a summary of the web interface and command line interface commands for the Switch.

- *Release Notes*

These notes provide information about the current software release, including new features, modifications, and known problems.

- *Switch Implementation Guide*

This guide contains information on the features supported by your Switch and how they can be used to optimize your network. It is supplied in PDF format on the CD-ROM that accompanies the Switch.

- *Management Interface Reference Guide*

This guide provides detailed information about the web interface and command line interface that enable you to manage the Switch. It is supplied in HTML format on the CD-ROM that accompanies the Switch.

There are other publications you may find useful:

- Documentation accompanying the Expansion Modules.
- Documentation accompanying 3Com Network Supervisor. This is supplied on the CD-ROM that accompanies the Switch.

Accessing Online Documentation

The CD-ROM supplied with your Switch contains the following online documentation:

- Switch Implementation Guide (PDF format).
- Switch Management Interface Reference Guide (HTML format).
- Other documentation relating to the Switch 4050 and 4060 (PDF format).

To access the online documentation from the CD-ROM:

- 1 Insert the CD-ROM into the relevant CD-ROM drive. If your PC has auto-run enabled, a splash screen will be displayed automatically.
- 2 Select the Documentation section from the contents page.

If the online documentation is to be accessed from a local drive or server, you will need to access the CD-ROM contents via the root directory and copy the files from the CD-ROM to a suitable directory.

- The HTML Reference Guide is stored in the `Docs/referenceguide` on the CD-ROM. The documentation is accessed using the `index.htm` file.
- The PDF Implementation Guide is stored in the `Docs/implementation` directory of the CD-ROM.



3Com recommends that you copy the `Docs/referenceguide` directory as a whole to maintain the structure of the files.

Product Registration

You can register your Switch on the 3Com Web site to receive up-to-date information on your product:

`http://support.3com.com/registration/frontpg.pl`

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- Document part number (on the title page)
- Page number (if appropriate)

Example:

Part Number DUA1770-9AAA0x

3Com Switch 4050 and 4060 Getting Started Guide

Page 21

1

INTRODUCING THE 3Com SWITCH 4050 AND 4060

This chapter contains introductory information about the 3Com® Switch 4050 and 4060 and how it can be used in your network. It covers summary information about the hardware and the following topics:

- [About the 3Com Switch 4050 and 4060](#)
- [3Com Switch 4050 and 4060 — Front View Detail](#)
- [3Com Switch 4050 and 4060 — Rear View Detail](#)
- [Default Settings](#)

About the 3Com Switch 4050 and 4060

The 3Com Switch 4050 is a mixed media device which consists of:

- 12 10BASE-T/100BASE-TX/1000BASE-T ports
- 6 1000BASE-SX ports
- 6 Gigabit Interface Convertor (GBIC) ports

The 3Com Switch 4060 is a mixed media device which consists of:

- 12 1000BASE-SX ports
- 6 10BASE-T/100BASE-TX/1000BASE-T ports
- 6 Gigabit Interface Convertor (GBIC) ports

You can also interconnect any combination of two Switches from the 3Com Switch 4050/4060 range or the SuperStack® 4900 Series to create an XRN Distributed Fabric. This allows you to create a highly resilient core around which you can build your network. For more information about interconnecting Switches, see [“Creating an XRN Distributed Fabric”](#) on [page 24](#). For more information about 3Com XRN Technology and how to use it in your network, refer to the Implementation Guide on the CD-ROM that accompanies the Switch.



For information about using the software features of the Switch, refer to the “Switch Management Interface Reference Guide” on the CD-ROM that accompanies the Switch.

Summary of Hardware Features

[Table 3](#) summarizes the hardware features that are supported by the 3Com Switch 4050 and 4060.

Table 3 Hardware features

Feature	3Com Switch 4050/4060
Addresses	Up to 12,000 supported Up to 64 permanent entries
Forwarding Modes	Store and Forward
Duplex Modes	■ Half duplex only supported on 10BASE-T/100BASE-TX/1000BASE-T Mbps ports in 10/100 Mbps mode ■ All 1000 Mbps ports are full duplex only
Flow Control	Supported on all ports
Smart auto-sensing	■ Supported on all 10BASE-T/100BASE-TX/1000BASE-T ports. ■ Not supported on 1000BASE-SX and GBIC ports.
Traffic Prioritization	Supported (IEEE Std 802.1D, 1998 Edition) Four traffic queues per port
Fast Ethernet and Gigabit Ethernet Ports	Auto-negotiating 10BASE-T/100BASE-TX/1000BASE-T, 1000BASE-SX and GBIC ports
Mounting	19-inch rack or stand-alone mounting
Layer 3 Switching	Support for wire-speed IP routing
Replaceable PSUs	Replaceable PSU and slot for optional second replaceable PSU
Hot Swap Fans	Two identical hot swap fan trays are fitted
XRN Support	eXpandable Resilient Networking (XRN) support. Allows interconnection of two units to create a Distributed Fabric.

3Com Switch 4050
and 4060 — Front
View Detail

Figure 1 3Com Switch 4050 — front view

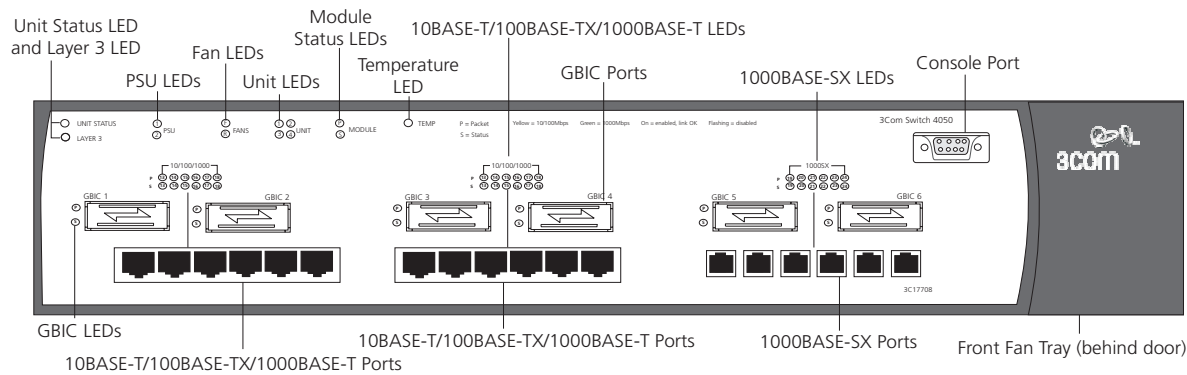
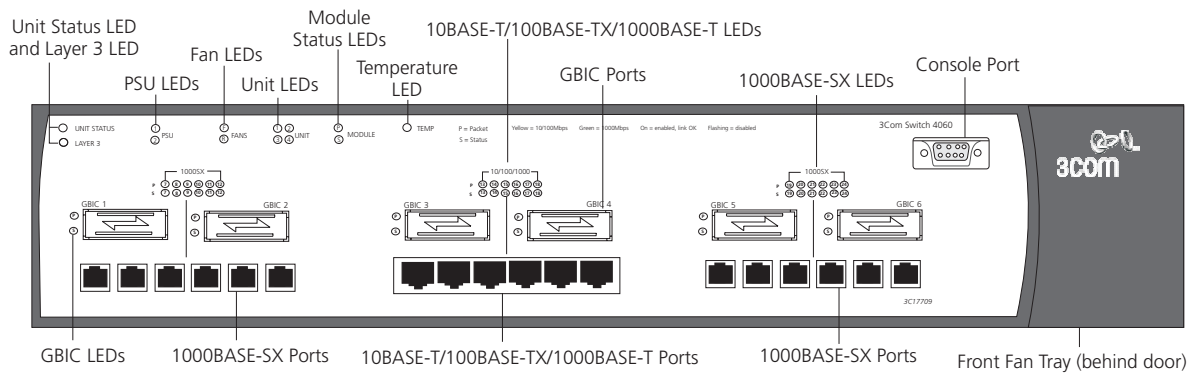


Figure 2 3Com Switch 4060 — front view



WARNING: RJ-45 Ports. These are shielded RJ-45 data sockets. They cannot be used as standard traditional telephone sockets, or to connect the unit to a traditional PBX or public telephone network. Only connect RJ-45 data connectors, network telephony systems, or network telephones to these sockets.

Either shielded or unshielded data cables with shielded or unshielded jacks can be connected to these data sockets.

1000BASE-SX Ports The auto-negotiating 1000BASE-SX ports have MT-RJ connectors.

The default state for these ports is auto-negotiation enabled, where the speed, duplex and flow control modes are negotiated. As the speed and duplex modes are fixed by the media type, only the flow control is negotiated with the link partner. Alternatively, auto-negotiation can be disabled and the flow control setting can be manually configured.

**10BASE-T/
100BASE-TX/
1000BASE-T Ports**

The 10BASE-T/100BASE-TX/1000BASE-T ports have RJ-45 connectors and are configured as Auto MDIX (cross-over).

The default state for these ports is auto-negotiation enabled, where the speed, duplex and flow control modes of a link are automatically detected to provide the highest available bandwidth with the link partner.

Alternatively, auto-negotiation can be disabled. These ports can be manually configured to 10 Mbps half duplex, 100 Mbps half duplex, 10 Mbps full duplex or 100 Mbps full duplex. It is not possible to manually configure a 1000 Mbps link as auto-negotiation is mandatory in the 1000 Mbps standard. If auto-negotiation is disabled, Auto MDIX cannot function and the ports are fixed as MDIX (cross-over) mode.



If auto-negotiation is disabled on a 1000 Mbps port, the speed will drop to the highest available speed. By default this is 100 Mbps.

GBIC Ports The 6 GBIC ports support fiber Gigabit Ethernet short-wave (SX), long-wave (LX) and long-haul (LH70) GBIC transceivers in any combination. This offers you the flexibility of using GBIC transceivers to provide connectivity between the Switch and remote 1000 Mbps workgroups or to create a high capacity aggregated link backbone connection.

The default state for these ports is auto-negotiation enabled, where the speed, duplex and flow control modes are negotiated. As the speed and duplex modes are fixed by the media type, only the flow control is negotiated with the link partner. Alternatively, auto-negotiation can be disabled and the flow control setting can be manually configured.

Console Port The console port allows you to connect a terminal and perform remote or local out-of-band management. The console port uses a standard null modem cable and is set to autobaud (up to a maximum of 19,200 baud), 8 data bits, no parity and 1 stop bit.

LEDs [Table 4](#) lists LEDs visible on the front of the Switch, and how to read their status according to color. For information on using the LEDs for problem solving, see [“Checking for Correct Operation of LEDs”](#) on [page 26](#).

Table 4 LED behavior

LED	Color	Indicates
Port Status LEDs		
Packet	Yellow	Packets are being transmitted/received on the port.
	Off	No packets are being transmitted/received on the port.
Status	Green	A high speed (1000 Mbps) link is present, and the port is enabled.
	Green flashing	A high speed (1000 Mbps) link is present, but the port is disabled.
	Yellow	A low speed (10/100 Mbps) link is present, and the port is enabled.
	Yellow flashing	A low speed (10/100 Mbps) link is present, but the port is disabled.
	Yellow flashing (fast)	Port has failed self-test and has automatically been disabled.
	Off	No link is present.
Module Status LEDs		
	Green	The Module is installed and supported. The Link Status has been determined for a single port Module.
	Yellow	The Module is installed and supported. The Module has multi-ports or there is no link for a single port Module.
	Yellow flashing	The Module is installed but not supported. Note that the unit will continue to operate normally.
	Yellow flashing (fast)	A port on the Module has failed POST and has been automatically disabled.
	Off	The Module is not installed.
Unit LEDs		
1–4	Green	Determines the identity of the Switch when interconnected to another Switch to create a Distibuted Fabric.
	Off	A fault has occurred.
Unit Status LED		
	Green	The Switch is powered-up and operating normally.

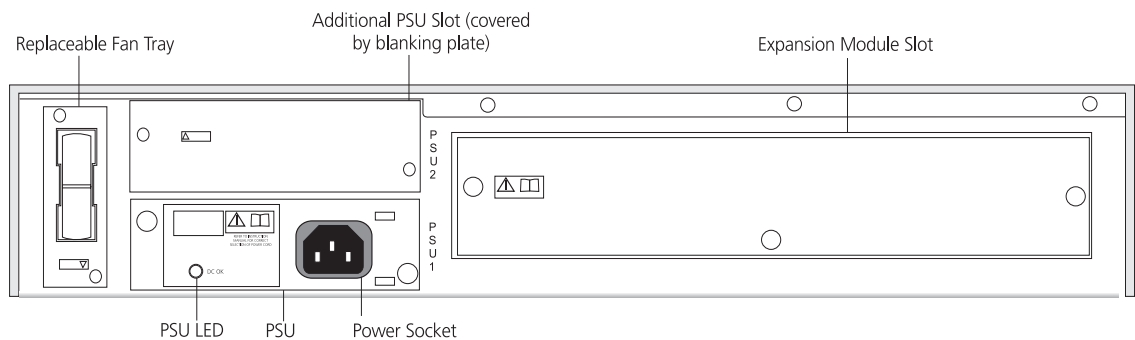
LED	Color	Indicates
Unit Status LED (cont.)		
	Green flashing	The Switch is either downloading software or is initializing (which includes running a Power On Self Test).
	Yellow	The Switch has failed its Power On Self Test or A port has failed and had been automatically disabled. You can verify this by checking that the Port Status LED is quickly flashing Yellow. If a port fails the Switch passes its Power On Self Test and continues to operate normally.
	Off	The Switch is not receiving power or there is a fault with the Power Supply unit.
Layer 3 LED		
	Green	The Switch software supports Layer 3.
	Off	The Switch software does not support Layer 3.
PSU LEDs (Front of Switch)*		
	Green	PSU fitted and enabled
	Red	PSU fitted and not operational
	Red flashing	PSU has shut down due to over-heating
	Off	No PSU fitted
PSU LED (PSU Module)		
	Green	The PSU module is installed and is supplying DC power to the Switch.
	Off	The PSU module is not supplying power and may have shut down due to a fault.
Fans (F = Front)		
	Red	One or both fans have failed
	Red flashing	Fan Tray has been removed
	Off	Fan Tray fitted and enabled.
Fans (R = Rear)		
	Red	One or both fans have failed
	Red flashing	Fan Tray has been removed
	Off	Fan Tray fitted and enabled.

LED	Color	Indicates
Temperature		
	Red flashing	The Switch and/or the PSUs are above critical temperature and may shut down.
	Off	The Switch and the PSUs are below critical temperature.

* The PSU LEDs are visible on the front of the Switch and are marked '1' for PSU 1 (bottom) and '2' for PSU 2 (top).

**3Com Switch 4050
and 4060 — Rear
View Detail**

Figure 3 3Com Switch 4050/4060 — rear view



**Expansion Module
Slot**

You can use this slot to install an Expansion Module. Contact your supplier for further information.



WARNING: When an Expansion Module is not installed, ensure the blanking plate is fitted by tightening all screws with a suitable tool.

**Replaceable Power
Supplies (PSUs)**

The 3Com Switch 4050 and 4060 has a bay for two internal power supplies. Contact your supplier for further information. For information on installation and removal, please refer to the documentation that accompanies the replacement PSU.

The 3Com Switch 4050 and 4060 support the 3Com AC power supply unit (3C17718).



WARNING: The system must not be left without a power supply or a blanking plate in either of the two slots (except during replacement of the power supplies). Tighten all screws with a suitable screwdriver.



WARNING: Care must be taken when removing a PSU as it may be hot. The replacement of power supplies should be completed within two minutes to avoid normal cooling being disturbed.

Power Socket

Each Power Supply automatically adjusts its power setting to any power voltage in the range 90-240 VAC.



WARNING: Mains power must be removed from the PSU before removing the PSU. A PSU must only be powered once it has been installed.

Replaceable Fan Trays

The 3Com Switch 4050 and 4060 are provided with two identical fan trays which can be replaced. Contact your supplier for further information. For information on installation, please refer to the documentation that accompanies your fan tray.

The 3Com Switch 4050 and 4060 support the 3Com Fan Tray (3C17717).



WARNING: A fan tray can be temporarily removed and replaced while the system is running without impacting operations. The system must not be left with either fan tray removed for more than two minutes or damage to the product may be caused. Tighten all screws with a suitable screwdriver.



WARNING: Care must be taken when removing the fan tray as the fan blades may continue to spin for a short time after removal. Keep fingers clear.



CAUTION: You are advised to replace a failed fan as soon as possible. Although the unit will continue to operate after a single fan failure its airflow and temperature will be affected. In such circumstances, the unit may overheat and automatically shutdown. If the unit continues to operate with reduced airflow, its long term reliability will also be reduced.

Default Settings

[Table 5](#) shows the default settings for the 3Com Switch 4050 and 4060. If you initialize one of the Switch units, it is returned to these defaults.

Table 5 Default Settings

Feature	3Com Switch 4050/4060
Port Status	Enabled
Port Speed	Auto-negotiated
Duplex Mode	Auto-negotiated
Flow Control	Auto-negotiated
Broadcast Storm Control	Enabled High threshold: 3000 broadcast frames per second — Notify and filter Low threshold: 1500 broadcast frames per second — Notify and unfilter
Virtual LANs (VLANs)	All ports belong to the untagged Default VLAN (VLAN 1)
Multicast Filtering	IGMP filtering enabled
Rapid Spanning Tree Protocol	Enabled
Link Aggregation Control Protocol (LACP)	Enabled
Spanning Tree Protocol	Enabled
Smart Auto-sensing	Enabled
IP Address	169.254.100.100*
Subnet Mask	255.255.0.0

* This default IP address is used if the unit is operating in standalone mode, and/or no other Switches on the network have this IP address. If this default IP address is already in use then the Switch detects this and configures itself with an IP address in the range 169.254.1.0 to 169.254.254.255.

2

INSTALLING THE SWITCH

This chapter contains the information you need to install and set up the 3Com® Switch 4050 and 4060. It covers the following topics:

- [Package Contents](#)
- [Choosing a Suitable Site](#)
- [Rack-mounting](#)
- [Placing Units On Top of Each Other](#)
- [The Power-up Sequence](#)
- [GBIC Operation](#)



WARNING: Safety Information. Before installing or removing any components from the 3Com Switch 4050 and 4060 or carrying out any maintenance procedures, you must read the safety information provided in [Appendix A](#) of this guide.



AVERTISSEMENT: Consignes de sécurité. Avant d'installer ou d'enlever tout composant du 3Com Switch 4050 et 4060 ou d'entamer une procédure de maintenance, lisez les informations relatives à la sécurité qui se trouvent dans l'Appendice A de ce guide.



VORSICHT: Sicherheitsinformationen. Bevor Sie Komponenten aus dem 3Com Switch 4050 und 4060 entfernen oder dem 3Com Switch 4050 und 4060 hinzufügen oder Instandhaltungsarbeiten verrichten, lesen Sie die Sicherheitsanweisungen, die in Anhang A in diesem Handbuch aufgeführt sind.

Package Contents

- 3Com Switch 4050 (3C17708) or Switch 4060 (3C17709)
- CD-ROM
- This Guide
- Management Quick Reference Guide
- Release Notes
- Warranty Flyer
- Power Cord
- 2 x securing brackets
- 8 x screws
- 4 x rubber feet

Choosing a Suitable Site

The 3Com Switch 4050 and 4060 are suited for use in an internal wiring closet, a network room, or telecommunications room, where they can be mounted in a standard 19-inch equipment rack, or free-standing.



CAUTION: *Ensure that the ventilation holes are not obstructed.*



To ensure these products provide optimum performance, high speed fans are used to provide ventilation. These fans have a high audible output.

When deciding where to position the Switch, ensure that:

- Cabling is located away from:
 - sources of electrical noise such as radios, transmitters and broadband amplifiers.
 - power lines and fluorescent lighting fixtures.
- The Switch is accessible and cables can be connected easily.
- Water or moisture cannot enter the case of the Switch.
- Air flow is not restricted around the Switch or through the vents in the side of the Switch. 3Com recommends that you provide a minimum of 25 mm (1 in.) clearance.
- Air temperature around the Switch does not exceed 40 °C (104 °F).



If the Switch is installed in a 19-inch rack or closed assembly its local air temperature may be greater than room ambient temperature.

- The air is as free from dust as possible.
- The Switch is situated away from sources of conductive (electrical) dust, for example laser printers.
- The unit is installed in a clean, air conditioned environment.
- The AC supply used by the Switch is separate to that used by units that generate high levels of AC noise, for example air conditioning units.
- No more than four Switch units are placed on top of one another, if the units are free-standing.

Rack-mounting

The Switch 4050 and 4060 are 2U high and will fit in most standard 19-inch racks.



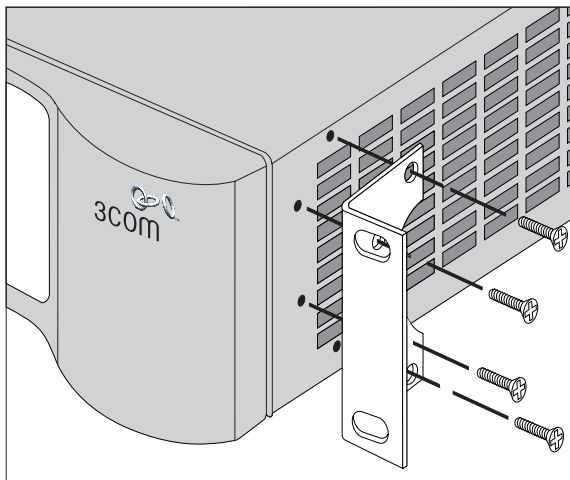
CAUTION: *Disconnect all cables from the Switch before continuing. Remove all self adhesive pads from the underside of the Switch if they have been fitted.*



CAUTION: *If you use a shelf or support ensure that it will not obstruct the air flow through the side panels of the Switch.*

To rack-mount your Switch:

- 1 Place the Switch the right way up on a hard flat surface, with the front facing towards you.
- 2 Locate a securing bracket over the mounting holes on one side of the Switch, as shown in [Figure 4](#).
- 3 Insert the four screws and tighten with a suitable screwdriver.

Figure 4 Fitting a bracket for rack-mounting

You must use the screws supplied with the securing brackets. Damage caused to the unit by using incorrect screws invalidates your warranty.

- 4 Repeat steps 2 and 3 for the other side of the Switch.
- 5 Insert the Switch into the 19-inch rack and secure with suitable screws (not provided). Ensure that ventilation holes are not obstructed.
- 6 Connect network cabling.

Placing Units On Top of Each Other

If the Switch units are free-standing, up to four units can be placed one on top of the other. If you are mixing a variety of Switch and Hub units, the smaller units must be positioned at the top.

If you are placing Switch units one on top of the other, you must use the self-adhesive rubber pads supplied. Apply the pads to the underside of each Switch, sticking one in the marked area at each corner. Place the Switch units on top of each other.

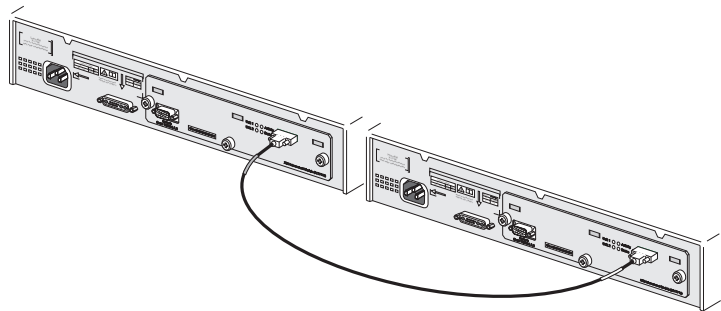
Creating an XRN Distributed Fabric

3Com Switch 4050/4060 units and the Switch 4900 Series units can be interconnected to create an XRN Distributed Fabric and then treated as a single manageable unit with one IP address. A combination of any two of these units is allowed to be interconnected.

How To Interconnect Units

To interconnect any two Switch 4900 Series or Switch 4050/4060 units you will need to order the XRN Interconnect Module Kit (3C17715). The kit consists of two XRN Interconnect Modules and an Interconnect Cable. Both Switches must have an unused expansion slot to allow an Interconnect Module to be fitted.

Figure 5 Interconnecting two Switch 4900 units



For information on ordering the XRN Interconnect Kits contact your supplier. For illustrations and information on how to install the XRN Interconnect Kits, refer to the user documentation that accompanies these Kits.

Rules For Interconnecting Units

This information is also provided in the user documentation that accompanies the XRN Interconnect Kits.

- The maximum number of Switch units that can be interconnected is two.
- XRN Interconnect Modules are NOT hot-swappable or hot-insertable. Ensure that the Switch is powered off before inserting or removing an Interconnect Module.
- Only 3Com XRN Interconnect Cables can be used to connect two Interconnect Modules.
- It is not possible to interconnect the Switch 4900 Series and Switch 4050/4060 units with any other 3Com device.
- 3Com strongly recommends that you upgrade all Switches to be interconnected to the latest software agent.
- 3Com recommends that you initialize a Switch unit that has previously been used elsewhere in your network before you interconnect to an

existing unit. If you do not initialize the unit, problems may be caused by conflicting Switch configurations.

- When the Switch units are interconnected they are assigned a unit number dependent on which XRN Interconnect Cable end is connected to which Switch. That is, the Switch with the blue cable end will be assigned the identity of Unit 1 and the Switch with the yellow cable end will be assigned the identity of Unit 2.



For a detailed description of how XRN Technology operates and implementation guidelines, please refer to the Implementation Guide on the CD-ROM that accompanies your Switch or on the 3Com Web site.

The Power-up Sequence

The following sections describe how to get your 3Com Switch 4050 and 4060 powered-up and ready for operation.

Powering-up the 3Com Switch 4050 and 4060

Use the following sequence of steps to power-up the Switch.

- 1 Plug the power cord into the power socket at the rear of the Switch.
- 2 Plug the other end of the power cord into your power outlet.

The Switch powers-up and runs through its Power On Self Test (POST), which takes approximately 10 seconds.



Repeat for the second power supply if it is fitted.

Checking for Correct Operation of LEDs

During the Power On Self Test, all ports on the Switch are disabled and the LEDs light in a rapid sequence.

When the POST has completed, check the Unit Status to make sure that your Switch is operating correctly. [Table 6](#) shows possible colors for the LED.

Table 6 Unit Status Colors

Color	State
Green	The Switch is powered-up and operating normally.
Yellow	The Switch has failed its Power On Self Test (POST).
Off	The Switch is not receiving power.

If there is evidence of a problem, see [“Solving Problems Indicated by LEDs”](#) on [page 52](#) for a list of suggested solutions.



CAUTION: *The Switch has no ON/OFF switch; the only method of connecting or disconnecting mains power is by connecting or disconnecting the power cord.*

Choosing the Correct 10/100/1000 Cables

The 10/100/1000 ports on the front of the Switch 4050 and 4060 are Auto-MDIX, that is they have a cross-over capability. These ports can automatically detect whether to operate in MDI or MDIX mode. Therefore you can make a connection to one of the ports with a straight-through (MDI) or a cross-over cable (MDIX).



The Auto-MDIX feature only operates when auto-negotiation is enabled.

If auto-negotiation is disabled, all the Switch ports are configured as MDIX (cross-over). If you want to make a connection to another MDIX port, you need a *cross-over* cable. Many ports on workstations and servers are configured as MDI (straight-through). If you want to make a connection to an MDI port, you need to use a standard *straight-through* cable. See [Table 7](#).

3Com recommends that you use at least Category 5 twisted pair cable — the maximum segment length for this type of cable is 100 m (328 ft).

Table 7 Cables required to connect the Switch 4050 and 4060 to other devices if auto-negotiation is disabled

	Cross-over Cable	Straight-through Cable
Switch to Switch (MDIX to MDIX)	✓	✗
Switch to Hub (MDIX to MDIX)	✓	✗
Switch to PC (NIC) (MDIX to MDI)	✗	✓



CAUTION: *If you want to install the Switch using a Category 5E or Category 6 cable, 3Com recommends that you briefly connect the cable to a grounded port before connecting network equipment. If you do not, the cable's Electrostatic Discharge (ESD) may damage the Switch's port.*

You can create a grounded port by connecting all wires at one end of a UTP cable to an earth ground point, and the other end to a female RJ-45

connector located, for example, on a Switch rack or patch panel. The RJ-45 connector is now a grounded port.

Choosing the correct Fiber cables

Choose from the following cable options:

- The 1000BASE-SX ports can be connected to multimode fiber cables only.
- The 1000BASE-LX and LH70 GBIC ports use multimode or single-mode fiber optic cables.



CAUTION: 3Com recommends that you use MT-RJ cables that do not contain alignment pins as these are provided by the fiber socket. Cables that contain alignment pins can cause damage to your Switch.



For detailed information on fiber cable specifications, refer to the Implementation Guide that accompanies your Switch.



If you wish to connect a 1000BASE-SX MT-RJ port to a fiber port with a different type of connector, for example, SC or ST please contact your network supplier for a suitable patch cable.

GBIC Operation

The following sections describes how to insert a GBIC transceiver into a GBIC port.



GBIC transceivers are hot-insertable and hot-swappable. You can remove them from and insert them into any GBIC port without having to power down the Switch.

Approved GBIC Transceivers

The following list of approved GBIC transceivers is correct at the time of publication.



WARNING: The Switch must only be fitted with 3Com approved GBIC transceivers, as listed below.

- 3CGBIC91 GBIC (SX)
- 3CGBIC92 GBIC (LX)
- 3CGBIC97 GBIC (LH70)

These are correct at the time of publication.

To access the latest list of approved GBIC transceivers for the Switch on the 3Com Corporation World Wide Web site, enter this URL into your internet browser:

`http://www.3com.com`



The URL is case sensitive.

Inserting a GBIC Transceiver

To be recognised as valid, the GBIC transceiver must have the following characteristics:

- 1000BASE-SX, 1000BASE-LX or 1000BASE-LH70 media type:
 - 1000BASE-SX GBIC transceiver
Use this transceiver to connect the Switch directly to a multimode fiber-optic cable.
 - 1000BASE-LX GBIC transceiver
Use this transceiver to connect the Switch directly to a single-mode fiber-optic cable or to multimode fiber using a conditioned launch cable.
 - 1000BASE-LH70 GBIC transceiver
Use this transceiver to connect the Switch directly to a single-mode fiber-optic cable or to multimode fiber using a conditioned launch cable.
- Fiber SC connector
- Type 4 GBIC with internal EEPROM fitted.



If the GBIC transceiver is faulty, it will not operate within the Switch. See ["Solving Hardware Problems"](#) on [page 54](#).



Use of non-3Com GBICs is not recommended. If the GBIC transceiver is invalid it will not be recognised by the Switch.

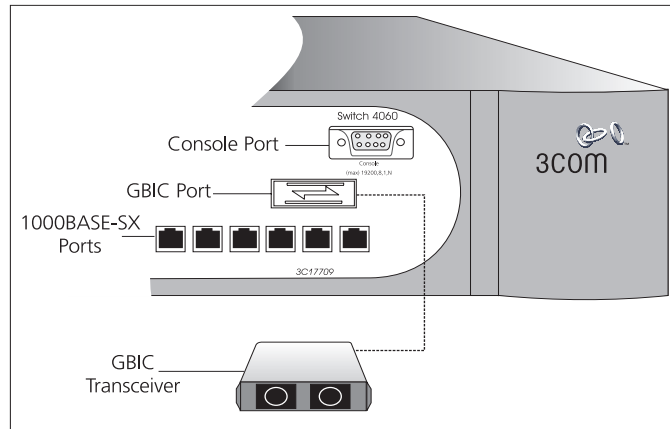
Use the following sequence of steps to activate the GBIC ports:

- 1** Orient the transceiver so that the fiber-optic duplex subscriber connector (SC) is toward you, as shown in [Figure 6](#).
- 2** Gently slide the transceiver into the GBIC port until it clicks into place.



CAUTION: GBIC transceivers are keyed and can be properly inserted only one way. If the transceiver does not click when you insert it, remove it, turn it over, and reinsert it.

Figure 6 Inserting a GBIC Transceiver



- 3 The transceiver connects to the network using a duplex SC connector. Attach a male duplex SC connector on the network cable into the duplex SC connector on the transceiver.
- 4 Connect the other end of the cable to a device fitted with an appropriate Gigabit Ethernet connection.
- 5 Check the LEDs on the front of the Switch to ensure that it is operating correctly. Refer to [“LEDs”](#) on [page 16](#) for more information.

If you wish to remove the transceiver, compress the side tabs and gently pull the transceiver out of the port.

3

SETTING UP FOR MANAGEMENT

Your Switch can operate in its default state, that is, you can install it and it will work straight away (plug-and-play). However, to make full use of the features offered by the Switch, and to change and monitor the way it works, you have to access the management software that resides on the Switch. This is known as managing the Switch.

Managing the Switch can help you to improve the efficiency of the Switch and therefore the overall performance of your network.

This chapter explains the initial set up of the Switch and the different methods of accessing the management software to manage a Switch. It covers the following topics:

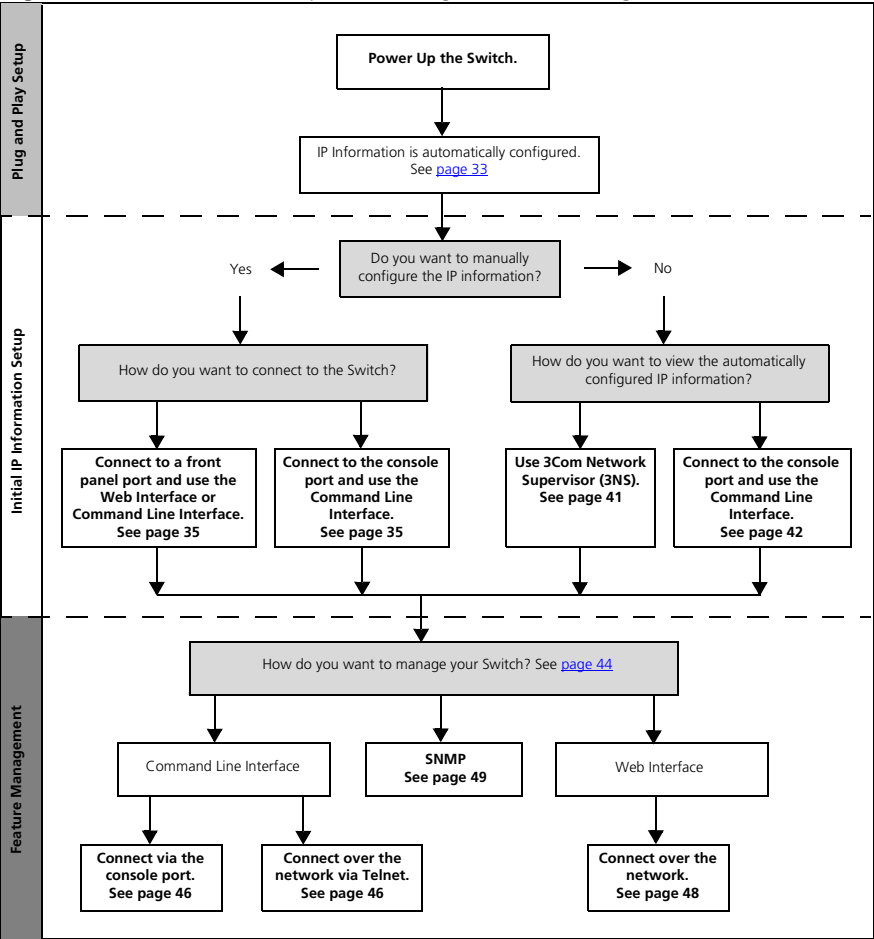
- [Setting Up Overview](#)
- [Manually Configuring IP Information](#)
- [Viewing Automatically Configured IP Information](#)
- [Methods of Managing a Switch](#)
- [Setting Up Command Line Interface Management](#)
- [Setting Up Web Interface Management](#)
- [Setting Up SNMP Management](#)
- [Default Users and Passwords](#)

Setting Up
Overview

This section gives an overview of what you need to do to get your Switch set up and ready for management when it is in its default state. The whole setup process is summarised in [Figure 7](#). Detailed procedural steps are contained in the sections that follow. In brief, you need to:

- Configure IP information manually for your Switch or view the automatically configured IP information
- Prepare for your chosen method of management

Figure 7 Initial Switch Setup and Management Flow diagram



CAUTION: To protect your Switch from unauthorized access, you must change all three default passwords as soon as possible, even if you do not intend to actively manage your Switch. For more information on default

users and changing default passwords, see [“Default Users and Passwords”](#) on [page 49](#).

IP Configuration

You can use one of the following methods to allocate IP information to your Switch (essential if you wish to manage your Switch across the network).

Manual IP Configuration

You can choose to configure the IP information yourself. The Switch remembers the information that you enter until you change it again or set the configuration method to Automatic.

You should use the Manual IP configuration method if:

- you do not have a DHCP or BootP server on your network, or
- you want to remove the risk of the IP address ever changing, or
- your DHCP or BootP server does not allow you to allocate static IP addresses. (Static IP addresses are necessary to ensure that the Switch is always allocated the same IP information.)



For most installations, 3Com recommends that you configure the Switch IP information manually. This makes management simpler and more reliable as it is not dependent on a DHCP or BootP server, and eliminates the risk of the IP address changing.

If you wish to manually enter IP information for your Switch, work through the [“Manually Configuring IP Information”](#) section on [page 35](#).

Automatic IP Configuration

By default the Switch tries to configure itself with IP information without requesting user intervention. It tries to obtain an IP address from a DHCP or BootP server on the network.

If neither server is found, the Switch will configure itself with its default IP address 169.254.100.100 if it is operating in a standalone mode, and/or no other Switches on the network have this IP address. If this default IP address is already in use on the network then the Switch detects this and configures itself with an IP address in the range 169.254.1.0 to 169.254.254.255.

This process is known as Auto-IP and is the same mechanism used by Windows 98 and Windows 2000. IP addresses configured by Auto-IP are

temporary as they cannot be routed but are useful for small networks which are not connected to other networks, or for initial configuration.

However, as soon as a DHCP or BootP server is detected, the Switch will configure itself with the IP address allocated by that server.

When using automatic IP configuration it is important that the IP address of the Switch is static, otherwise you will not know what the IP address is and it will be difficult to manage. Most DHCP and BootP servers allow static IP addresses to be configured so that you know what IP address will be allocated to the Switch. Refer to the documentation that accompanies your DHCP/BootP server.



For a detailed description of how automatic IP configuration operates, please refer to the Implementation Guide on the CD-ROM that accompanies your Switch or on the 3Com Web site.

You should use the automatic IP configuration method if:

- your network uses DHCP or BootP to allocate IP information, or
- flexibility is needed. If the Switch is re-deployed onto a different subnet, it will automatically reconfigure itself with an appropriate IP address, instead of you having to manually reconfigure the Switch.

If you use the automatic IP configuration method, you need to discover the automatically allocated IP information before you can begin management. Work through the [“Viewing Automatically Configured IP Information”](#) section on [page 41](#).

Preparing for Management

Once your Switch's initial set up is complete you can set up your chosen management method as described in [“Methods of Managing a Switch”](#) on [page 44](#).



For detailed information about the specific web interface operations and command line interface commands and problem solving, refer to the “Management Interface Reference Guide” on the CD-ROM that is supplied with the Switch or on the 3Com Web site.

Manually Configuring IP Information

You can manually configure the Switch IP information in the following ways:

- Connecting to a front panel port — Connect a workstation using an Ethernet cable to a front panel port of the Switch. You can then manually enter IP information using the web interface or the command line interface (CLI).
- Connecting to the console port — Connect a workstation using a console cable to the console port of the Switch. You can then manually enter IP information using the command line interface (CLI).

Connecting to a Front Panel Port

To set up your Switch manually you can make a connection to a front panel port. You must do this whilst the Switch is offline, that is, before you connect the Switch to a network.



The procedure described in this section assumes the unit has been powered up in standalone mode and has the default IP address of 169.254.100.100.

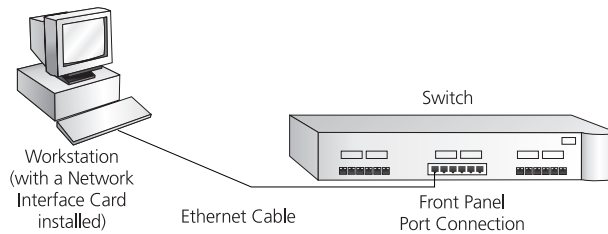
Pre-requisites

- A workstation running Windows 95/98/2000 or Windows NT.
- A Network Interface Card (NIC).
- A Category 5 twisted pair Ethernet cable with RJ-45 connectors.
- A suitable Web browser — refer to [“Choosing a Browser”](#) on [page 47](#).
- You need to have the following so that you can manually set up the Switch with IP information:
 - IP address
 - subnet mask
 - default gateway

Connecting the Workstation to the Switch

- 1 Connect the workstation to a front panel port using an Ethernet cable as shown in [Figure 8](#).

Figure 8 Connecting a workstation to the Switch via a front panel port



To connect the cable:

- a Attach an RJ-45 connector at one end of the Ethernet cable to the Network Interface Card (NIC) in the workstation.
- b Connect the RJ-45 connector at the other end of the cable to one of the front panel ports on the Switch.



Do not interconnect the Switch to any other unconfigured Switch.

Configuring the Workstation with IP Information

You need to change the IP address and subnet mask of the workstation that you have connected to the Switch. Make a note of the existing settings so you can return to them later. Change the workstation to the following settings:

- IP address — **169.254.100.99**
- Subnet mask — **255.255.0.0**

Setting Up the Switch with IP Information

You are now ready to manually set up the Switch with IP information. You can do this using the Web interface or the command line interface (CLI) via telnet.

Using the Web Interface

- 1 Power-up the Switch. This takes approximately one minute.
- 2 Open a suitable Web browser and enter **169.254.100.100** in the *Location Address* field. This is the default IP address that is automatically assigned to an offline unit.



If there is no response, wait for one minute then re-enter the default IP address.

- 3 At the login and password prompts, enter **admin** as your user name and press Return at the password prompt (default user name and password). If you have logged on correctly, a set of Getting Started pages are displayed.
- 4 The Getting Started pages allow you to enter basic setup information for the Switch. Select **Manual** and then enter the IP address, subnet mask, and default gateway that you want the Switch to use when it is connected to the network. The final page displays a summary of the information entered.

The initial set up of your Switch is now complete and the Switch is ready for you to set up your chosen management method. See [“Methods of Managing a Switch”](#) on [page 44](#).

Using Command Line Interface via Telnet

- 1 To start a Telnet session to the unit, click *Start* in Microsoft Windows 95/98/2000/NT.
 - a Click *Run*.
 - b In the dialogue box that appears type the default IP address of the unit, that is: **Telnet 169.254.100.100**
 - c Click *OK*.
- 2 Press *Enter* to open a login prompt.



If the login prompt does not begin immediately, press Return a few times until it starts.

- 3 At the login and password prompts, enter **admin** as your user name and press Return at the password prompt. If you have logged on correctly, the top-level menu of the command line interface is displayed as shown in the example in [Figure 9](#).

Figure 9 Example top-level command line interface menu

```

Menu options: -----3Com Switch 4xxx-----
bridge          - Administer bridge-wide parameters
feature         - Administer system features
gettingStarted  - Basic device configuration
logout          - Logout of the Command Line Interface
physicalInterface - Administer physical interfaces
protocol        - Administer protocols
security        - Administer security
system          - Administer system-level functions
trafficManagement - Administer traffic management

Type ? for help
----- (2)-----
Select menu option: █

```

4 At the Select menu option prompt you can either:

- enter the **protocol ip basicConfig** command. At the Enter configuration method prompt enter **manual**. The screen prompts you to enter IP information.

or

- enter the **gettingStarted** command. At the Enter configuration method prompt enter **manual**. The screen prompts you to enter IP information.

5 Enter the IP address, subnet mask, and gateway IP address for the Switch. The screen displays a summary of the information entered.

If using the `gettingStarted` command you will then be prompted to enter system information, change passwords, and then given the option to carry out advanced configuration.

The initial set up of your Switch is now complete and the Switch is ready for you to set up your chosen management method. See [“Methods of Managing a Switch”](#) on [page 44](#).

Connecting to the Console Port

To set up your Switch manually you can alternatively make a connection to the console port (this example describes a local connection to the console port, rather than a remote one via a modem). You can do this whilst the Switch is offline, that is, before you connect the Switch to a network, or whilst the Switch is online, that is, connected to a network.

Pre-requisites

- A workstation with terminal emulation software installed, such as Microsoft Hyperterminal. This software allows you to communicate with the Switch via the console port directly, or through a modem.

- Documentation supplied with the terminal emulation software.
- A suitable cable:
 - A standard null modem cable — if you are connecting directly to the console port, or
 - A standard modem cable — if you are connecting to the console port using a modem.



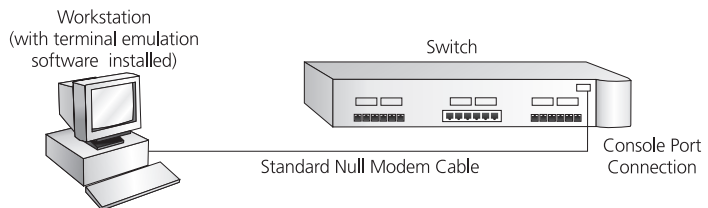
You can find pin-out diagrams for both cables in [Appendix B](#) on [page 71](#).

- You need to have the following so that you can manually set up the Switch with IP information:
 - IP address
 - subnet mask
 - default gateway

Connecting the Workstation to the Switch

- 1 Connect the workstation to the console port using a standard null modem cable as shown in [Figure 10](#).

Figure 10 Connecting a workstation to the Switch via the console port



To connect the cable:

- a Attach the female connector on the cable to the male connector on the console port of the Switch.
 - b Tighten the retaining screws on the cable to prevent it from being loosened.
 - c Connect the other end of the cable to one of the serial ports (also known as a COM port) on your workstation.
- 2 Open your terminal emulation software and configure the COM port settings to which you have connected the cable. The settings should be set to match the default settings for the Switch, which are:
 - 19,200 baud
 - 8 data bits

- no parity
- 1 stop bit
- no hardware flow control

Refer to the documentation that accompanies the terminal emulation software for more information.

Setting Up the Switch with IP Information

You are now ready to manually set up the Switch with IP information using the command line interface.

- 1 The command line interface login sequence begins as soon as the Switch detects a connection to its console port.



If the login prompt does not begin immediately, press Return a few times until it starts.

- 2 At the login and password prompts, enter **admin** as your user name and press Return at the password prompt. If you have logged on correctly, the top-level menu of the command line interface is displayed as shown in [Figure 11](#).

Figure 11 Example top-level command line interface menu

```
Menu options: -----3Com Switch 4xxx-----
bridge          - Administer bridge-wide parameters
feature          - Administer system features
gettingStarted   - Basic device configuration
logout          - Logout of the Command Line Interface
physicalInterface - Administer physical interfaces
protocol         - Administer protocols
security         - Administer security
system          - Administer system-level functions
trafficManagement - Administer traffic management

Type ? for help
----- (2)-----
Select menu option: █
```

- 3 At the Select menu option prompt you can either:
 - enter the **protocol ip basicConfig** command. At the Enter configuration method prompt enter **manual**. The screen prompts you to enter IP information.
 - or
 - enter the **gettingStarted** command. At the Enter configuration method prompt enter **manual**. The screen prompts you to enter IP information.

- 4 Enter the IP address, subnet mask, and gateway IP address for the Switch. The screen displays a summary of the information entered.

If using the `gettingStarted` command you will then be prompted to enter system information, change passwords, and then given the option to carry out advanced configuration.

The initial set up of your Switch is now complete and the Switch is ready for you to set up your chosen management method. See [“Methods of Managing a Switch”](#) on [page 44](#).

If you do not intend to use the command line interface via the console port to manage the Switch, you can logout, disconnect the serial cable and close the terminal emulator software.

Viewing Automatically Configured IP Information

If you allow the Switch to automatically configure its own IP information you need to discover and view the IP information before you can begin to manage the Switch. You can discover the IP information in two ways:

- Using 3Com Network Supervisor — This application will auto-discover the Switch and display the automatically allocated IP information assigned to the Switch.
- Connecting to the Console Port — Connect a workstation using a console cable to the console port of the Switch. You can then view the IP information automatically assigned to the Switch using the command line interface (CLI).

Using 3Com Network Supervisor

You can use the 3Com Network Supervisor application provided on the CD-ROM that accompanies your Switch to discover the automatically allocated IP information.

- 1 Connect your Switch to the network.
- 2 Power-up the Switch and wait for two minutes.
- 3 Launch 3Com Network Supervisor and run the Auto-discovery wizard.

3Com Network Supervisor will auto-discover the new Switch and display the IP information that has been automatically allocated to the Switch.



Most DHCP and BootP servers allow static IP addresses to be configured so that you know what IP address the Switch will be given. Refer to the documentation that accompanies your DHCP or BootP server.



If your network does not have a DHCP or BootP server, the workstation running 3Com Network Supervisor must be on the same subnet as the Switch, because Auto-IP addresses are non-routable.

Connecting to the Console Port

Alternatively, you can view the automatically configured IP information via the command line interface (CLI) through a connection to the console port. (This example describes a local connection to the console port, rather than a remote one via a modem.)

Pre-requisites

- A workstation with terminal emulation software installed, such as Microsoft Hyperterminal. This software allows you to communicate with the Switch via the console port directly, or through a modem.
- Documentation supplied with the terminal emulation software.
- A suitable cable:
 - A standard null modem cable — if you are connecting directly to the console port, or
 - A standard modem cable — if you are connecting to the console port using a modem.



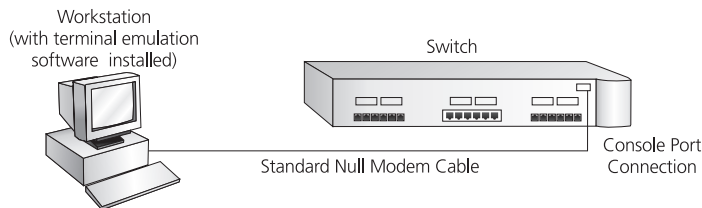
You can find pin-out diagrams for both cables in [Appendix B](#) on [page 71](#).

- A Category 5 twisted pair Ethernet cable with RJ-45 connectors to connect your Switch to the network.

Connecting the Workstation to the Switch

- 1 Connect the workstation to the console port using a standard null modem cable as shown in [Figure 12](#).

Figure 12 Connecting a workstation to the Switch via the console port



To connect the cable:

- a Attach the female connector on the cable to the male connector on the console port of the Switch.

- b Tighten the retaining screws on the cable to prevent it from being loosened.
 - c Connect the other end of the cable to one of the serial ports (also known as a COM port) on your workstation.
- 2 Open your terminal emulation software and configure the COM port settings to which you have connected the cable. The settings should be set to match the default settings for the Switch, which are:
 - 19,200 baud
 - 8 data bits
 - no parity
 - 1 stop bit
 - no hardware flow control

Refer to the documentation that accompanies the terminal emulation software for more information.

Viewing IP Information via the Console Port

You are now ready to view the automatically allocated IP information using the command line interface.

- 1 Connect your Switch to the network using an Ethernet cable. As soon as a network connection is made the Switch begins the automatic IP configuration process.



The automatic IP configuration process usually completes within one minute.



If there is no response from a DHCP server within 30 seconds, the Auto-IP configuration mechanism attempts to allocate the default IP address 169.254.100.100. If this address is not available, it then allocates an IP address in the range of 169.254.x.y (where x is in the range 1 to 254, and y is in the range 0 to 255).

- 2 The command line interface login sequence begins as soon as the Switch detects a connection to its console port.



If the login prompt does not begin immediately, press Return a few times until it starts.

- 3 At the login and password prompts, enter **admin** as your user name and press Return at the password prompt. If you have logged on correctly, the top-level menu of the command line interface is displayed as shown in the example in [Figure 13](#).

Figure 13 Example top-level command line interface menu

```
Menu options: -----3Com Switch 4xxx -----
bridge          - Administer bridge-wide parameters
feature         - Administer system features
gettingStarted  - Basic device configuration
logout          - Logout of the Command Line Interface
physicalInterface - Administer physical interfaces
protocol        - Administer protocols
security        - Administer security
system         - Administer system-level functions
trafficManagement - Administer traffic management

Type ? for help
----- (2)-----
Select menu option: █
```

4 At the Select menu option prompt enter the **protocol ip interface summary** command. At the Select IP interfaces prompt enter **all**. A summary of the automatically allocated IP information is displayed. Make a note of the Network IP Address.

The initial set up of your Switch is now complete and the Switch is ready for you to set up your chosen management method. See [“Methods of Managing a Switch”](#) on [page 44](#).

If you do not intend to use the command line interface via the console port to manage the Switch, you can disconnect the serial cable and close the terminal emulator software.

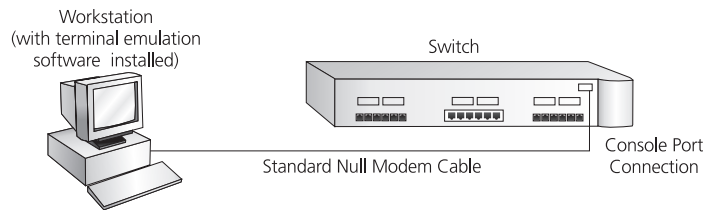
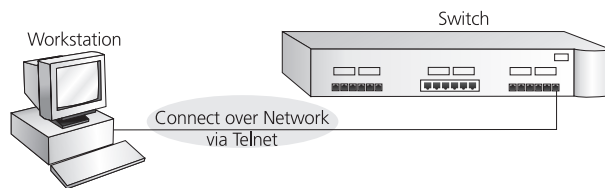
**Methods of
Managing a Switch**

Once you have completed the initial set up of your Switch, you can decide how you wish to manage the Switch. You can use one of the following methods:

- Command line interface management
- Web interface management
- SNMP management

**Command Line
Interface
Management**

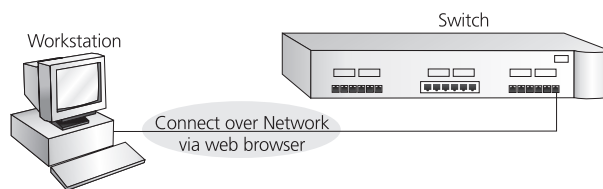
Each Switch has a command line interface (CLI) that allows you to manage the Switch from a workstation, either locally via a console port connection (see [Figure 14](#)), or remotely over the network (see [Figure 15](#)).

Figure 14 CLI management via the console port**Figure 15** CLI management over the network

Refer to [“Setting Up Command Line Interface Management”](#) on [page 46](#).

Web Interface Management

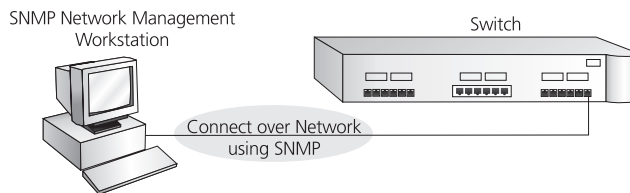
Each Switch has an internal set of web pages that allow you to manage the Switch using a Web browser remotely over an IP network (see [Figure 16](#)).

Figure 16 Web interface management over the network

Refer to [“Setting Up Web Interface Management”](#) on [page 47](#).

SNMP Management

You can manage a Switch using any network management workstation running the Simple Network Management Protocol (SNMP) as shown in [Figure 17](#). For example, you can use the 3Com Network Supervisor software that is provided on the CD-ROM that accompanies your Switch.

Figure 17 SNMP management over the network

Refer to [“Setting Up SNMP Management”](#) on [page 49](#).

Setting Up Command Line Interface Management

This section describes how you can set up command line interface management using a local console port connection or over the network.

CLI Management via the Console Port

To manage a Switch using the command line interface via the local console port connection:

- 1 Ensure you have connected your workstation to the console port correctly as described in [“Connecting to the Console Port”](#) on [page 38](#).
- 2 Your Switch is now ready to continue being managed and/or configured through the CLI via its console port.

CLI Management over the Network

To manage a Switch using the command line interface over a network using Telnet:

- 1 Ensure you have already set up the Switch with IP information as described in [“Setting Up Overview”](#) on [page 32](#).
- 2 Check that you have the IP protocol correctly installed on your management workstation. You can check this by trying to browse the World Wide Web. If you can browse, the IP protocol is installed.
- 3 Check you can communicate with the Switch by entering a **ping** command at the DOS prompt in the following format:

```
c:\ ping xxx.xxx.xxx.xxx
```

(where xxx.xxx.xxx.xxx is the IP address of the Switch)

If you get an error message, check that your IP information has been entered correctly and the Switch is powered up.

- 4 To open a Telnet session via the DOS prompt, enter the IP address of the Switch that you wish to manage in the following format:

```
>telnet xxx.xxx.xxx.xxx
```

(where xxx.xxx.xxx.xxx is the IP address of the Switch)



If opening a Telnet session via third party software you will need to enter the IP address in the format suitable for that software.

- 5 At the login and password prompts, enter **admin** as your user name and press Return at the password prompt (or the password of your choice if you have already modified the default passwords).



If the login prompt does not display immediately, press Return a few times until it starts.

- 6 If you have logged on correctly, the top-level menu of the command line interface for the Switch you wish to manage is displayed as shown in [Figure 11](#) on [page 40](#).

Setting Up Web Interface Management

This section describes how you can set up web interface management over the network.

Pre-requisites

- Ensure you have already set up the Switch with IP information as described in [“Setting Up Overview”](#) on [page 32](#).
- Ensure that the Switch is connected to the network using a Category 5 twisted pair Ethernet cable with RJ-45 connectors.
- A suitable Web browser.

Choosing a Browser

To display the web interface correctly, use one of the following Web browser and platform combinations:

Table 8 Supported Web Browsers and Platforms

	Windows 95	Windows 98	Windows NT 4	Windows 2000	Windows XP	Solaris 2.6
Netscape 4.76	✓	✓	✓	✓	✓	✓
Netscape 6.2	✗	✓	✓	✓	✓	✗
Internet Explorer 5.0, 5.5 and 6.0	✓	✓	✓	✓	✓	✗

For the browser to operate the web interface correctly, JavaScript and Cascading Style Sheets must be enabled on your browser. These features are enabled on a browser by default. You will only need to enable them if you have changed your browser settings.

To enable style sheets in Netscape Navigator 4.76 on Solaris 2.6, open Netscape Navigator and select *Edit > Preferences > Fonts*. Select the *Use document-specified fonts, including Dynamic Fonts* radio button. You should also set the font sizes as follows:

- Variable Width Font - Size 10.0
- Fixed Width Font - Size 12.0

This ensures that the text spacing is correct. Finally in the *Advanced* category ensure that *Enable JavaScript* and *Enable style sheets* are checked.

Web Management Over the Network

To manage a Switch using the web interface over an IP network:

- 1 Check that you have the IP protocol correctly installed on your management workstation. You can check this by trying to browse the World Wide Web. If you can browse, the IP protocol is installed.
- 2 Check you can communicate with the Switch by entering a **ping** command at the DOS prompt in the following format:
c:\ ping xxx.xxx.xxx.xxx
 (where xxx.xxx.xxx.xxx is the IP address of the Switch)
 If you get an error message, check that your IP information has been entered correctly and the Switch is powered up.
- 3 Open your web browser and enter the IP address of the Switch that you wish to manage in the URL locator, for example, in the following format:
http://xxx.xxx.xxx.xxx
- 4 At the login and password prompts, enter **admin** as your user name and press Return at the password prompt (or the password of your choice if you have already modified the default passwords).
- 5 Click on the *Device View* button to display the web management options.

Setting Up SNMP Management

Any network management application running the Simple Network Management Protocol (SNMP) can manage a Switch if:

- The correct Management Information Bases (MIBs) are installed on the management workstation.
- The management workstation is connected to the Switch using a port in VLAN 1 (the Default VLAN). By default, all ports on the Switch are in VLAN 1.



You can use the 3Com Network Supervisor application that is provided on the CD-ROM that accompanies your Switch to provide SNMP management for your Switch. If you use 3Com Network Supervisor it automatically loads the correct MIBs and necessary files onto your workstation.

Pre-requisites

- Documentation supplied with the SNMP network management application software.



*To manage your Switch using an SNMP network management application, you need to specify SNMP community strings for the users defined on the Switch. You can do this using the command line interface **system management snmp community** command — refer to the command line interface section of the “Management Interface Reference Guide” for more information.*

Default Users and Passwords

If you intend to manage the Switch using the web interface or the command line interface, or to change the default passwords, you need to log in with a valid user name and password. The Switch has three default user names, and each user name has a different password and level of access. These default users are listed in [Table 9](#).



CAUTION: *To protect your Switch from unauthorized access, you must change all three default passwords as soon as possible, even if you do not intend to actively manage your Switch*

Table 9 Default Users

User Name	Default Password	Access Level
monitor	monitor	monitor — the user can view all manageable parameters, except special/security features, but cannot change any manageable parameters.
manager	manager	manager — the user can access and change the operational parameters but not special/security features
admin	(no password)	security — the user can access and change all manageable parameters



Use the admin default user name (no password) to login and carry out initial Switch setup.

Changing Default Passwords

You can change the default passwords using either:

- The **gettingStarted** command on the CLI, or
- The **security device user modify** command on the CLI, or
- The *Security > Device > User > Modify* operation on the web interface.



For more information about default users and passwords, refer to the “Management Interface Reference Guide” on the Switch CD-ROM.

4

PROBLEM SOLVING

This chapter helps you to diagnose and solve problems you may have with the operation of your Switch. There is also an explanation of IP addressing.

The topics covered are:

- [Solving Problems Indicated by LEDs](#)
- [Solving Hardware Problems](#)
- [Solving Communication Problems](#)
- [Solving Software Upgrade Problems](#)

If you experience a problem that is not listed here, it may be included in the support section of the Switch Management Interface Reference Guide on the CD-ROM that accompanies your Switch.



To ensure this product provides optimum performance, high speed fans are used to provide ventilation. These fans have a high audible output.

For Technical Support information, see [Appendix D](#).

Solving Problems Indicated by LEDs

If the LEDs on the Switch indicate a problem, refer to the list of suggested solutions below.

The Unit LED does not light

Check that the power cable is firmly connected to the Switch and to the supply outlet. If the connection is secure and there is still no power, you may have a faulty power cord or an internal fault. Firstly, check the power cord by:

- testing it in another device
- connecting a working power cord to the 'problem' device
- installing and testing a second PSU

then contact your supplier for advice.

On powering-up, the Unit Status lights yellow

Either:

- The Switch unit has failed its Power On Self Test (POST) because of an internal problem. The fault type will be indicated on the unit LEDs. Contact your supplier for advice.
- or
- A port has failed and has been automatically disabled. You can verify this by checking that the Port Status LED is quickly flashing Yellow. If a port fails the Switch passes its Power on Self Test and continues to operate normally.

A Port Status LED is quickly flashing yellow

The port has failed and has been automatically disabled. The Switch passes its Power On Self Test and continues to operate normally, even if one or more ports are disabled.

The PSU LED lights red or flashing red

The PSU has failed or you may have a faulty power cord. Firstly, check whether a temporary fault has occurred by removing and replacing the power cord connected to the PSU. If the problem still occurs, check the power cord by:

- testing it in another device

- connecting a working power cord to the 'problem' device
- testing the PSU in the spare slot or another unit
- installing and testing a second PSU in the 'problem' slot

If the LED lights flashing red the PSU has shutdown due to over-heating. See [Solving Hardware Problems](#) on [page 54](#) for more advice.

The temperature LED lights flashing red

The Switch unit has exceeded its operating temperature and may shutdown. See [Solving Hardware Problems](#) on [page 54](#) for more advice.

The fan tray LED lights red

One or both of the fans have failed and have stopped or lost speed. See [Solving Hardware Problems](#) on [page 54](#) for more advice.

A link is connected and yet the Port Status LED for the port does not light

Check that:

- The Switch and the device at the other end of the link (or cable) are connected securely.
- The devices at both ends of the link are powered-up
- The quality of cable is satisfactory
- Auto-negotiation settings are the same at both ends.

Link problems will occur with 10BASE-T or 100BASE-T where auto-negotiation is disabled and incorrect cables are being used.

Link problems will occur with fiber if:

- The Receiver (RX) and Transceiver (TX) cable connectors are swapped
- Fibers are broken
- Auto-negotiation differs at either end (a link appears at the 'fixed' end and not at the auto-negotiation end)

Solving Hardware Problems

In the rare event of your Switch unit experiencing a hardware failure, refer to the list of suggested solutions below.

An expansion module is installed and the unit will not power up

Ensure that the expansion module is fully seated in the slot and the connectors are engaged so that the securing screws can be tightened.

A fan failure warning message is received

Your Switch has a fan monitoring system that will generate fan failure warning messages. Fan failure could potentially reduce the lifetime of the Switch. The monitoring system polls the fan status at periodic intervals while the unit is powered up.

Should one or more fans fail within the Switch, a warning message will be generated in the following ways:

- **RMON Email Notification** — If configured, you will receive notification of the fan failure via email, SMS (Short Message Service), or pager.
- **RMON Trap** — If configured, an RMON trap is generated and sent to the management workstation.
- **Command Line Interface** — An indication of a general hardware failure is provided through the Top level menu displayed when logging on to the CLI. For more detailed information about the failure select the **system summary** command.
- **Web interface** — An indication of fan failure is provided through the Device Summary table for the specific unit. In addition all Summary tables turn red to indicate the fan failure. The device mimic will also display red flashing fan icons.



For further information about RMON, refer to “Chapter 7: Status Monitoring and Statistics” in the Switch Implementation Guide supplied in PDF format on the CD-ROM that accompanies the Switch.

If a fan failure warning message is generated:

- 1 Power off the unit.
- 2 Check that the air vents are not obstructed.

- 3 Power cycle the unit. To do this, remove and reconnect the AC mains supply. If the unit has no AC main supply, remove and reconnect the DC RPS supply.

If another fan failure warning message is generated via the Command Line Interface or the Web interface, you can replace the fan tray.

- 4 If the fail trap is for the front fan tray:
 - a Open the door where the bulge is at the front of the Switch.
 - b Remove the screws securing the fan tray using a suitable screwdriver
 - c Gently slide the fan tray from the Switch

If the fail trap is for the rear fan tray:

- a Remove the screws securing the fan tray using a suitable screwdriver
- b Gently slide the fan tray from the Switch



CAUTION: A fan tray can be temporarily removed and replaced while the system is running without impacting operations. The system must not be left with either fan tray removed for more than two minutes or damage to the product may be caused.

- 5 Replace the fan tray. If a further fail trap is received, install a replacement identical fan tray.
- 6 If a fan fail trap is still received, return the unit.



WARNING: Care must be taken when removing the fan tray as the fan blades may continue to spin for a short time after removal. Keep fingers clear.

An SNMP thermal shutdown trap and email is received

- 1 Power off the unit.
- 2 Check that the Switch unit is operating with the following:
 - An expansion module or blanking plate fitted.
 - A second PSU or blanking plate fitted
- 3 Check that the air vents are not obstructed.
- 4 Check that the ambient temperatures and environmental conditions meet those specified in [Appendix C](#).
- 5 Check that the front and rear fans have not failed or have been left out from the Switch.

- 6 Power cycle the unit. If a further thermal shutdown trap is received, return the unit.

An SNMP fan fail trap and email is received

- 1 If the fail trap is for the front fan tray:
 - a Open the door where the bulge is at the front of the Switch.
 - b Remove the screws securing the fan tray using a suitable screwdriver
 - c Gently slide the fan tray from the Switch
- If the fail trap is for the rear fan tray:
 - a Remove the screws securing the fan tray using a suitable screwdriver
 - b Gently slide the fan tray from the Switch



CAUTION: *A fan tray can be temporarily removed and replaced while the system is running without impacting operations. The system must not be left with either fan tray removed for more than two minutes or damage to the product may be caused.*

- 2 Check that the air vents are not obstructed.
- 3 Replace the fan tray. If a further fail trap is received, install a replacement identical fan tray.
- 4 If a fan fail trap is still received, return the unit.



WARNING: *Care must be taken when removing the fan tray as the fan blades may continue to spin for a short time after removal. Keep fingers clear.*

Unit fails, no SNMP fan fail trap or SNMP thermal shutdown trap is received

- 1 Power cycle the unit. To do this, remove and reconnect the AC mains supply (if two PSU's are fitted, remove and reconnect both at once).
- 2 Check the command line interface (**system summary** command) to determine whether a thermal shutdown has occurred.
- 3 If no, return the unit:
If yes, check that:
 - The air vents are not obstructed.
 - The ambient temperatures and environmental conditions meet those specified in [Appendix C](#).

- 4 Power cycle the unit. If a further thermal shutdown occurs, and all environmental conditions are satisfactory, return the unit to 3Com.

Error message indicating that the GBIC transceiver is invalid

The Switch has identified that the GBIC does not meet the minimum requirements for the Switch and has disabled the port. To correct this problem, completely remove the GBIC and replace it with a 3Com approved GBIC. See "[Approved GBIC Transceivers](#)" on [page 28](#).

Error message indicating that the GBIC transceiver is faulty

To correct this problem, completely remove the GBIC and then reinsert it. Alternatively, insert another identical GBIC. If the problem persists, contact 3Com Technical Support.

Solving Communication Problems

If you experience communication problems with the Switch, ensure that:

- The Switch IP address has been configured.
- If the Switch is separated from your management application by a router, ensure that the default gateway IP address within the Switch is the same as the IP address of the router.
- The Switch's IP address has been entered correctly in your network management application (for example 3Com Network Supervisor).

The following is an brief overview of IP addressing, and how to obtain a registered IP address.

IP Addressing

To be managed correctly, each device on your network (for example a Switch or Hub) must have a unique IP address. IP addresses have the format $n.n.n.n$ where n is a decimal number between 0 and 255. An example IP address is 192.168.100.8.

The IP address is split into two parts:

- The first part ('192.168.100' in the example) identifies the network on which the device resides
- The second part ('.8' in the example) identifies the device within the network

The natural subnet mask for this example is 255.255.255.0.



If your network has a connection to the external IP network, that is, you access the Internet, you must apply for a registered IP address.

How do you obtain a registered IP Address?

The IP registration system ensures that every IP address used is unique; if you do not have a registered IP address, you may be using an identical address to someone else and your network will not operate correctly.

InterNIC Registration Services is the organization responsible for supplying registered IP addresses. The following contact information is correct at time of publication:

World Wide Web site: <http://www.internic.net>

If your IP network is internal to your organization only, that is, you do not access the Internet, you may use any arbitrary IP address as long as it is not being used by another device on your network. 3Com suggests you use addresses in the series 192.160.100.X (where X is a number between 1 and 254) with a subnet mask of 255.255.255.0.



These suggested IP addresses are part of a group of IP addresses that have been set aside specially for use 'in house' only.

Solving Software Upgrade Problems

You can upgrade the management software of the Switch by using the *System > Control > Software Upgrade* operation in the Web Interface, or the `system control softwareUpgrade` command in the command line interface. For details on these options, refer to the Management Interface Reference Guide supplied in HTML format on the CD-ROM that accompanies your Switch.

If you have problems with your software upgrade, refer to the Problem Solving section in the Management Interface Reference Guide.

A

SAFETY INFORMATION

You must read the following safety information before carrying out any installation or removal of components, or any maintenance procedures on the 3Com Switch 4050 and 4060.



WARNING: Warnings contain directions that you must follow for your personal safety. Follow all directions carefully.
You must read the following safety information carefully before you install or remove the unit.



AVERTISSEMENT: Les avertissements présentent des consignes que vous devez respecter pour garantir votre sécurité personnelle. Vous devez respecter attentivement toutes les consignes.
Nous vous demandons de lire attentivement les consignes suivantes de sécurité avant d'installer ou de retirer l'appareil.



VORSICHT: Vorsicht enthalten Anweisungen, die Sie zu Ihrer eigenen Sicherheit befolgen müssen. Alle Anweisungen sind sorgfältig zu befolgen.
Sie müssen die folgenden Sicherheitsinformationen' sorgfältig durchlesen, bevor Sie das Gerät installieren oder ausbauen.

Important Safety Information



WARNING: Installation and removal of the unit must be carried out by qualified personnel only.



WARNING: If installing the 3Com Switch 4050 and 4060 in a stack with SuperStack 3 units that are narrower than the 4050 and 4060, the 3Com Switch 4050 and 4060 units must be installed below the narrower units.



WARNING: The unit must be earthed (grounded).



WARNING: Connect the unit to an earthed power supply to ensure compliance with safety standards.



WARNING: Power Cord Set:
This must be approved for the country where it is used:

U.S.A. and
Canada

- The cord set must be UL-approved and CSA certified.
- The minimum specification for the flexible cord is:
No. 18 AWG
Type SV or SJ
3-conductor
- The cord set must have a rated current capacity of at least 10A.
- The attachment plug must be an earth-grounding type with a NEMA 5-15P (15A, 125V) or NEMA 6-15P (15A, 250V) configuration.

United
Kingdom only

- The supply plug must comply with BS1363 (3-pin 13 amp) and be fitted with a 5A fuse which complies with BS1362.
- The mains cord must be <HAR> or <BASEC> marked and be of type H03VVF3GO.75 (minimum).

Europe only:

- The supply plug must comply with CEE 7/7 ("SCHUKO").
- The mains cord must be <HAR> or <BASEC> marked and be of type H03VVF3GO.75 (minimum).

Denmark

- The supply plug must comply with section 107-2-D1, standard DK2-1a or DK2-5a.

Switzerland

- The supply plug must comply with SEV/ASE 1011.



WARNING: The appliance coupler (the connector to the unit and not the wall plug) must have a configuration for mating with an EN60320/IEC320 appliance inlet.



WARNING: The socket outlet must be near to the unit and easily accessible. You can only remove power from the unit by disconnecting the power cord from the outlet.



WARNING: This unit operates under SELV (Safety Extra Low Voltage) conditions according to IEC 950. The conditions are only maintained if the equipment to which it is connected also operates under SELV conditions.



WARNING: France and Peru only:
This unit cannot be powered from IT⁺ supplies. If your supplies are of IT type, this unit must be powered by 230V (2P+T) via an isolation transformer ratio 1:1, with the secondary connection point labelled Neutral, connected directly to earth (ground).
**Impédance à la terre.*



WARNING: U.K. only:
If connecting a modem to the console port of the 3Com Switch 4050 and 4060, only use a modem which is suitable for connection to the telecommunications system.



WARNING: RJ-45 Ports. These are shielded RJ-45 data sockets. They cannot be used as standard traditional telephone sockets, or to connect the unit to a traditional PBX or public telephone network. Only connect RJ-45 data connectors, network telephony systems, or network telephones to these sockets.

Either shielded or unshielded data cables with shielded or unshielded jacks can be connected to these data sockets.



WARNING: When an Expansion Module is not installed ensure the blanking panel is fitted by tightening all screws with a suitable tool.



WARNING: *Fiber Optic ports - Optical Safety*



Never look at the transmit laser while it is powered-up. Never look directly at the fiber ports and fiber cable ends when they are powered-up.



WARNING: *Use of controls or adjustments of performance or procedures other than those specified herein may result in hazardous laser emissions.*



WARNING: *The Switch must only be fitted with 3Com approved GBIC transceivers, as listed below.*

- 3CGBIC91 GBIC (SX)
- 3CGBIC92 GBIC (LX)
- 3CGBIC97 GBIC (LH70)



WARNING: *Mains power must be removed from the PSU before removing the PSU. A PSU must only be powered once it has been installed.*



WARNING: *The system must not be left without a power supply or a blanking plate in either of the two slots (except during replacement of the power supplies). Tighten all screws with a suitable screwdriver.*



WARNING: *Care must be taken when removing a PSU as it may be hot. The replacement of power supplies should be completed within two minutes to avoid normal cooling being disturbed.*



WARNING: *A fan tray can be temporarily removed and replaced whilst the system is running without impacting operations. The system must not be left with either fan tray removed for more than two minutes or damage to the product may be caused. Tighten all screws with a suitable screwdriver.*



WARNING: *Care must be taken when removing the fan trays as the fan blades may continue to spin for a short time after removal. Keep fingers clear.*

L'information de Sécurité Importante



AVERTISSEMENT: L'installation et la dépose de ce groupe doivent être confiés à un personnel qualifié.



AVERTISSEMENT: Si vous entassez l'unité Switch avec les unités SuperStack 3 Hub, l'unité 3Com Switch 4050 and 4060 doit être installée en dessous des unités Hub plus étroites.



AVERTISSEMENT: Vous devez mettre l'appareil à la terre (à la masse) ce groupe.



AVERTISSEMENT: Brancher l'unité à une source de courant mise à la terre pour assurer la conformité aux normes de sécurité.



AVERTISSEMENT: Cordon électrique:
Il doit être agréé ans le pays d'utilisation:

Etats-Unis et
Canada

- Le cordon doit avoir reçu l'homologation des UL et un certificat de la CSA
- Le cordon souple doit respecter, à titre minimum, les spécifications suivantes :
- calibre 18 AWG
- type SV ou SJ
- à 3 conducteurs
- Le cordon doit être en mesure d'acheminer un courant nominal d'au moins 10 A
- La prise femelle de branchement doit être du type à mise à la terre (mise à la masse) et respecter la configuration NEMA 5-15P (15 A, 125 V) ou NEMA 6-15P (15 A, 250 V)

Danemark

- La prise mâle d'alimentation doit respecter la section 107-2 D1 de la norme DK2 1a ou DK2 5a

Europe

- La prise secteur doit être conforme aux normes CEE 7/7 ("SCHKO")
- LE cordon secteur doit porter la mention <HAR> ou <BASEC> et doit être de type HO3VVF3GO.75 (minimum).

Suisse

- La prise mâle d'alimentation doit respecter la norme SEV/ASE 1011



AVERTISSEMENT: Le coupleur d'appareil (le connecteur du groupe et non pas la prise murale) doit respecter une configuration qui permet un branchement sur une entrée d'appareil EN60320/CEI 320.



AVERTISSEMENT: La prise secteur doit se trouver à proximité de l'appareil et son accès doit être facile. Vous ne pouvez mettre l'appareil hors circuit qu'en débranchant son cordon électrique au niveau de cette prise.



AVERTISSEMENT: L'appareil fonctionne à une tension extrêmement basse de sécurité qui est conforme à la norme CEI 950. Ces conditions ne sont maintenues que si l'équipement auquel il est raccordé fonctionne dans les mêmes conditions.



AVERTISSEMENT: France et Pérou uniquement:
Ce groupe ne peut pas être alimenté par un dispositif à impédance à la terre. Si vos alimentations sont du type impédance à la terre, ce groupe doit être alimenté par une tension de 230 V (2 P+T) par le biais d'un transformateur d'isolement à rapport 1:1, avec un point secondaire de connexion portant l'appellation Neutre et avec raccordement direct à la terre (masse).



AVERTISSEMENT: Points d'accès RJ-45. Ceux-ci sont protégés par des prises de données. Ils ne peuvent pas être utilisés comme prises de téléphone conventionnelles standard, ni pour la connection de l'unité à un réseau téléphonique central privé ou public. Raccorder seulement connecteurs de données RJ-45, systèmes de réseaux de téléphonie ou téléphones de réseaux à ces prises.

Il est possible de raccorder des câbles protégés ou non protégés avec des jacks protégés ou non protégés à ces prises de données.



AVERTISSEMENT: Si le module d'expansion n'est pas installé, veillez à bien installer la plaque d'obturation et serrez toutes les vis à l'aide d'un outil approprié.



AVERTISSEMENT: Ports pour fibres optiques – sécurité sur le plan optique



Ne regardez jamais le laser tant qu'il est sous tension. Ne regardez jamais directement le port à fibres optiques et les embouts de câbles à fibres optiques tant qu'ils sont sous tension.



AVERTISSEMENT: L'utilisation de contrôles, de réglages de performances ou de procédures autres que ceux qui sont spécifiés au sein du présent document risquent d'entraîner l'exposition à des rayonnements laser dangereux.



AVERTISSEMENT: Le commutateur ne doit être utilisé qu'avec des modules Transceiver GBIC approuvés par 3Com.

- 3CGBIC91 GBIC (SX)
- 3CGBIC92 GBIC (LX)
- 3CGBIC97 GBIC (LH70)



AVERTISSEMENT: Il faut déconnecter le secteur du bloc d'alimentation avant de démonter ce dernier. Un bloc d'alimentation ne doit être mis sous tension qu'une fois installé.



AVERTISSEMENT: Le Switch ne doit pas rester sans bloc d'alimentation ni plaque vierge dans l'emplacement (sauf pendant le remplacement du bloc d'alimentation). Serrez toutes les vis avec un tournevis approprié.



AVERTISSEMENT: Soyez prudent en démontant les blocs d'alimentation, ils sont peut-être chauds. Le remplacement des blocs d'alimentation doit être terminé en moins de deux minutes pour éviter de perturber le refroidissement normal.



AVERTISSEMENT: Avant d'installer le éventez le porteur, lisez les informations relatives à la sécurité qui se trouvent dans le guide d'utilisation (3Com Switch 4050 et 4060).



AVERTISSEMENT: Un support de ventilateur peut être démonté provisoirement et remplacé pendant le fonctionnement du système sans que cela n'ait d'influence sur le fonctionnement. Le système ne doit pas être laissé avec l'un des supports de ventilateur démontés pendant plus de deux minutes, sinon le produit risque d'être endommagé. Serrez toutes les vis avec un tournevis approprié.



AVERTISSEMENT: Soyez prudent en démontant les supports de ventilateur, car les pales peuvent continuer de tourner quelques instants après le démontage. Tenez les doigts éloignés.

Wichtige Sicherheitsinformationen



VORSICHT: Die Installation und der Ausbau des Geräts darf nur durch Fachpersonal erfolgen.



VORSICHT: Wenn die Switch 4050 und 4060 Einheit in einer Stapel mit anderen SuperStack 3 Hub Einheiten eingebaut werden soll, muß die Switch 4050 und 4060 Einheit unter die schmalere Hub Einheiten eingebaut werden.



VORSICHT: Das Gerät muß geerdet sein.



VORSICHT: Das Gerät muß an eine geerdete Steckdose angeschlossen werden, die europäischen Sicherheitsnormen erfüllt.



VORSICHT: Der Anschlußkabelsatz muß mit den Bestimmungen des Landes übereinstimmen, in dem er verwendet werden soll.



VORSICHT: Der Gerätestecker (der Anschluß an das Gerät, nicht der Wandsteckdosenstecker) muß eine passende Konfiguration für einen Geräteeingang gemäß EN60320/IEC320 haben.



VORSICHT: Die Netzsteckdose muß in der Nähe des Geräts und leicht zugänglich sein. Die Stromversorgung des Geräts kann nur durch Herausziehen des Gerätenetzkabels aus der Netzsteckdose unterbrochen werden.



VORSICHT: Europe

- Das Netzkabel muß vom Typ HO3VVF3GO.75 (Mindestanforderung) sein und die Aufschrift <HAR> oder <BASEC> tragen.
- Der Netzstecker muß die Norm CEE 717 erfüllen ("SCHUKO").



VORSICHT: Der Betrieb dieses Geräts erfolgt unter den SELV-Bedingungen (Sicherheitskleinstspannung) gemäß IEC 950. Diese Bedingungen sind nur gegeben, wenn auch die an das Gerät angeschlossenen Geräte unter SELV-Bedingungen betrieben werden.



VORSICHT: RJ-45-Porte. Diese Porte sind geschützte Datensteckdosen. Sie dürfen weder wie normale traditionelle Telefonsteckdosen noch für die Verbindung der Einheit mit einem traditionellem privatem oder öffentlichem Telefonnetzwerk gebraucht werden. Nur RJ-45-Datenanschlüsse, Telefonnetzsysteme oder Netztelefone an diese Steckdosen anschließen.

Entweder geschützte oder ungeschützte Buchsen dürfen an diese Datensteckdosen angeschlossen werden.



VORSICHT: Ist kein Erweiterungsmodul installiert, überprüfen Sie bitte den Sitz der Stanzplatte, indem Sie alle Schrauben mit einem geeigneten Werkzeug anziehen.



VORSICHT: Faseroptikanschlüsse – Optische Sicherheit



Niemals ein Übertragungslaser betrachten, während dieses eingeschaltet ist. Niemals direkt auf die Faseranschlüsse und auf die Faserkabelenden schauen, während diese eingeschaltet sind.



VORSICHT: Die Verwendung von Steuerelementen oder die Anpassung von Leistungen und Verfahren in anderer als der hierin genannten Weise kann zu gefährlichen Laseremissionen führen.



VORSICHT: Der Switch sollte nur mit von der Firma 3Com zugelassenen GBIC Transceivermodulen, wie unten aufgeführt, bestückt werden.

- 3CGBIC91 GBIC (SX)
- 3CGBIC92 GBIC (LX)
- 3CGBIC97 GBIC (LH70)



VORSICHT: Bevor Sie den PSU hinzufügen, lesen Sie die Sicherheitsanweisungen, die im Handbuch aufgeführt sind (Switch 4050 und 4060).



VORSICHT: Die PSU muss vor dem Ausbauen von der Stromversorgung getrennt werden. Eine PSU darf erst an die Stromversorgung angeschlossen werden, nachdem Sie installiert wurde.



VORSICHT: Der Switch darf sich nicht ohne PSU oder Blende im Steckplatz befinden (außer während des Austausches der PSU). Ziehen Sie alle Schrauben mit einem geeigneten Schraubendreher fest.



VORSICHT: Beim Ausbau der PSU muss beachtet werden, dass diese sehr heiß sein kann. Der Austausch von PSUs darf nicht länger als 2 Minuten dauern, so dass der normale Kühlbetrieb nicht unterbrochen wird.



VORSICHT: Bevor Sie den hinzufügen steinbrecherfan, lesen Sie die Sicherheitsanweisungen, die im Handbuch aufgefuehrt sind (3Com Switch 4050 und 4060).



VORSICHT: Ein Lüfterträger kann vorübergehend ausgebaut und ersetzt werden, während das System läuft, ohne dass dabei der normale Betrieb beeinträchtigt wird. Keiner der Lüfterträger darf länger als zwei Minuten aus dem System entfernt werden, da dies zu einer Beschädigung des Geräts führen kann. Ziehen Sie alle Schrauben mit einem geeigneten Schraubendreher fest.



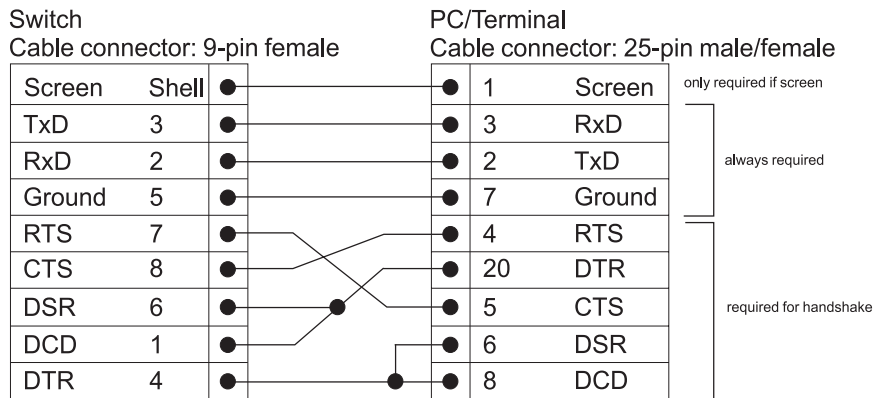
VORSICHT: Beim Ausbau der Lüfterträger muss beachtet werden, dass sich die Lüfterflügel noch kurze Zeit drehen können, nachdem Sie ausgebaut wurden. Fassen Sie die Lüfterblätter nicht an.

B

PIN-OUTS

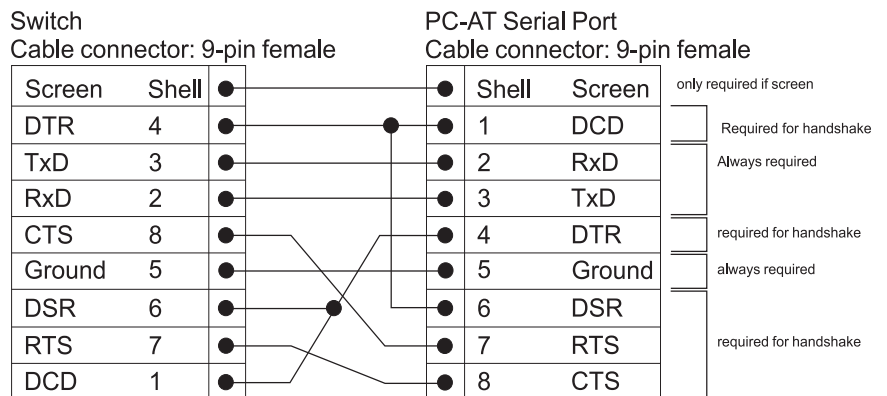
Null Modem Cable

9-pin to RS-232 25-pin



PC-AT Serial Cable

9-pin to 9-pin



Modem Cable

9-pin to RS-232 25-pin

Switch			RS-232 Modem Port		
Cable connector: 9-pin female			Cable connector: 25-pin male		
Screen	Shell	●	●	1	Screen
TxD	3	●	●	2	TxD
RxD	2	●	●	3	RxD
RTS	7	●	●	4	RTS
CTS	8	●	●	5	CTS
DSR	6	●	●	6	DSR
Ground	5	●	●	7	Ground
DCD	1	●	●	8	DCD
DTR	4	●	●	20	DTR

RJ-45 Pin Assignments

Pin assignments are identical for 10/100 and 1000 RJ-45 connectors.

Table 10 Pin assignments

Pin Number	10/100	1000
<i>Ports configured as MDI</i>		
1	Transmit Data +	Bidirectional Data A+
2	Transmit Data +	Bidirectional Data A-
3	Receive Data +	Bidirectional Data B+
4	Not assigned	Bidirectional Data C+
5	Not assigned	Bidirectional Data C-
6	Receive Data –	Bidirectional Data B-
7	Not assigned	Bidirectional Data D+
8	Not assigned	Bidirectional Data D-

Table 11 Pin assignments

Pin Number	10/100	1000
<i>Ports configured as MDIX</i>		
1	Receive Data +	Bidirectional Data B+
2	Receive Data -	Bidirectional Data B-
3	Transmit Data +	Bidirectional Data A+
4	Not assigned	Bidirectional Data A-
5	Not assigned	Bidirectional Data D+
6	Transmit Data	Bidirectional Data D-
7	Not assigned	Bidirectional Data C+
8	Not assigned	Bidirectional Data C-



TECHNICAL SPECIFICATIONS

Physical Dimensions	Height: 83 mm (3.5 in.) x Width: 440 mm (17.3 in.) x Depth: 363.4 mm (14.30 in.) (not including bulge). Weight: 8.95 Kgs (19.73 lbs)
Environmental Requirements	
Operating Temperature	0 ° to 40 °C (32 ° to 104 °F)
Storage Temperature	−10 ° to +70 °C (14 ° to 158 °F)
Operating Humidity	10–95% relative humidity, non-condensing
Standards	EN60068 to 3Com schedule (package testing: paras 2.1, 2.2, 2.30 and 2.32. Operational testing: paras 2.1, 2.2, 2.30 and 2.13.
Safety	
Agency Certifications	UL 60950, EN60950, CSA 22.2 No. 60950, IEC 60950, IEC825-1, EN60825-1
EMC	
Emissions	CISPR 22 Class A, EN55022 Class A, FCC Part 15 Subpart B Class A, ICES-003 Class A, VCCI Class A, AS/NZS 3548 Class A, CNS 13438 Class A, EN61000-3-2
Immunity	EN 55024
Power Consumption	210 watts maximum
Heat Dissipation	717 BTU/hour maximum
Power Supply	
AC Line Frequency	50/60 Hz
Input Voltage Options	90–240 VAC
Current Rating	3.5A (amps)(maximum)

Standards Supported	SNMP:	Terminal Emulation:
	SNMP protocol (RFC 1157)	Telnet (RFC 854)
	MIB-II (RFC 1213)	Protocols Used for Administration:
	Bridge MIB (RFC 1493)	UDP (RFC 768)
	Bridge MIB Extensions (RFC 2674)	IP (RFC 791)
	RMON MIB II (RFC 2021)	ICMP (RFC 792)
	Remote Monitoring MIB (RFC 1757)	TCP (RFC 793)
	MAU MIB (RFC 2239)	ARP (RFC 826)
	Ethernet:	TFTP (RFC 783)
	IEEE 802.3: (2000)	DHCP (RFC 2131, RFC 2132, RFC 1534)
	ISO 8802/3	BOOTP (RFC 951, RFC 1497)
		IGMP (RFC 1112 & 2236)
		RADIUS (RFC 2865, 1321, & 2869)
		RMON: (RFC 2819)

D

TECHNICAL SUPPORT

3Com provides easy access to technical support information through a variety of services. This appendix describes these services.

Information contained in this appendix is correct at time of publication. For the most recent information, 3Com recommends that you access the 3Com Corporation World Wide Web site.

Online Technical Services

3Com offers worldwide product support 24 hours a day, 7 days a week, through the following online systems:

- World Wide Web site
- 3Com Knowledgebase Web Services
- 3Com FTP site

World Wide Web Site

To access the latest networking information on the 3Com Corporation World Wide Web site, enter this URL into your Internet browser:

<http://www.3com.com/>

This service provides access to online support information such as technical documentation and software, as well as support options that range from technical education to maintenance and professional services.

3Com Knowledgebase Web Services

The 3Com Knowledgebase is a database of technical information to help you install, upgrade, configure, or support 3Com products. The Knowledgebase is updated daily with technical information discovered by 3Com technical support engineers. This complimentary service, which is available 24 hours a day, 7 days a week to 3Com customers and partners, is located on the 3Com Corporation World Wide Web site at:

<http://knowledgebase.3com.com>

3Com FTP Site Download drivers, patches, software, and MIBs across the Internet from the 3Com public FTP site. This service is available 24 hours a day, 7 days a week.

To connect to the 3Com FTP site, enter the following information into your FTP client:

- Hostname: **ftp.3com.com**
- Username: **anonymous**
- Password: **<your Internet e-mail address>**



You do not need a user name and password with Web browser software such as Netscape Navigator and Internet Explorer.

Support from Your Network Supplier

If you require additional assistance, contact your network supplier. Many suppliers are authorized 3Com service partners who are qualified to provide a variety of services, including network planning, installation, hardware maintenance, application training, and support services.

When you contact your network supplier for assistance, have the following information ready:

- Product model name, part number, and serial number
- A list of system hardware and software, including revision levels
- Diagnostic error messages
- Details about recent configuration changes, if applicable

If you are unable to contact your network supplier, see the following section on how to contact 3Com.

Support from 3Com If you are unable to obtain assistance from the 3Com online technical resources or from your network supplier, 3Com offers email and telephone technical support services. To find out more about your support options, email or call the 3Com technical support services at the location nearest you.

Email Support Some 3Com regions offer an email support service. To access this service for your region, use the appropriate URL or email address from the list below.

Asia, Pacific Rim

From this region, email:

`apr_technical_support@3com.com`

Europe, Middle East and Africa

From this region, enter the URL:

`http://emea.3com.com/support/email.html`

Latin America

Spanish speakers, enter the URL:

`http://lat.3com.com/lat/support/form.html`

Portuguese speakers, enter the URL:

`http://lat.3com.com/br/support/form.html`

English speakers, email:

`lat_support_anc@3com.com`

Telephone Support When you contact 3Com for assistance, have the following information ready:

- Product model name, part number, and serial number
- A list of system hardware and software, including revision levels
- Diagnostic error messages
- Details about recent configuration changes, if applicable

Here is a list of worldwide technical telephone support numbers. These numbers are correct at the time of publication. Refer to the 3Com Web site for updated information.

Country	Telephone Number	Country	Telephone Number
Asia, Pacific Rim			
Australia	1 800 678 515	Philippines	1235 61 266 2602 or +61 2 9937 5076
Hong Kong	800 933 486	P.R. of China	10800 61 00137 or 021 6350 1590 or 00800 0638 3266
India	+61 2 9424 5179 or 000800 650 1111		800 6161 463
Indonesia	001 803 61009		00798 611 2230 or 02 3455 6455
Japan	00531 616 439 or 03 5977 7991	Singapore	00801 611 261
Malaysia	1800 801 777	S. Korea	001 800 611 2000
New Zealand	0800 446 398	Taiwan	
Pakistan	+61 2 9937 5083	Thailand	
Europe, Middle East and Africa			
From anywhere in these regions, call:	+44 (0)1442 435529		
From the following countries, you may use the numbers shown:			
Austria	01 7956 7124	Luxembourg	800 29880
Belgium (Flemish)	070 700 000	Netherlands	0900 777 7737
Belgium (French)	070 700 770	Norway	815 33 047
Denmark	7010 7289	Poland	00800 441 1357
Finland	01080 2783	Portugal	707 200 123
France	0825 809 622	South Africa	0800 991196
Germany	01805 404 747	Spain	9 021 60455
Hungary	06800 14466	Sweden	07711 14453
Ireland	1800 509359	Switzerland	08488 50112
Israel	1800 943 2632	U.K.	0870 241 3901
Italy	199 161346		
Latin America			
Antigua	1 800 998 2112	Guatemala	AT&T +800 998 2112
Argentina	0 810 444 3COM	Haiti	57 1 657 0888
Aruba	1 800 998 2112	Honduras	AT&T +800 998 2112
Bahamas	1 800 998 2112	Jamaica	1 800 998 2112
Barbados	1 800 998 2112	Martinique	571 657 0888
Belize	52 5 201 0010	Mexico	01 800 849CARE
Bermuda	1 800 998 2112	Nicaragua	AT&T +800 998 2112
Bonaire	1 800 998 2112	Panama	AT&T +800 998 2112
Brazil	0800 13 3COM	Paraguay	54 11 4894 1888
Cayman	1 800 998 2112	Peru	AT&T +800 998 2112
Chile	AT&T +800 998 2112	Puerto Rico	1 800 998 2112
Colombia	AT&T +800 998 2112	Salvador	AT&T +800 998 2112
Costa Rica	AT&T +800 998 2112	Trinidad and Tobago	1 800 998 2112
Curacao	1 800 998 2112	Uruguay	AT&T +800 998 2112
Ecuador	AT&T +800 998 2112	Venezuela	AT&T +800 998 2112
Dominican Republic	AT&T +800 998 2112	Virgin Islands	57 1 657 0888
North America	1 800 876 3266		

Returning Products for Repair

Before you send a product directly to 3Com for repair, you must first obtain an authorization number. Products sent to 3Com without authorization numbers will be returned to the sender unopened, at the sender's expense.

You can obtain an authorization number (called an RMA) by entering the following URL into your Internet browser:

http://www.3com.com/support/en_US/repair

Alternatively, you can obtain an RMA by calling or faxing one of the following numbers:

Country	Telephone Number	Country	Telephone Number
Asia, Pacific Rim			
From anywhere in this region call:	+ 65 543 6500 phone + 65 543 6348 fax		
Europe, Middle East and Africa			
From anywhere in these regions, call:	+44 (0)1442 435529		
From the following countries, you may use the numbers shown:			
Austria	01 7956 7124	Luxembourg	800 29880
Belgium (Flemish)	070 700 000	Netherlands	0900 777 7737
Belgium (French)	070 700 770	Norway	815 33 047
Denmark	7010 7289	Poland	00800 441 1357
Finland	01080 2783	Portugal	707 200 123
France	0825 809 622	South Africa	0800 991196
Germany	01805 404 747	Spain	9 021 60455
Hungary	06800 14466	Sweden	07711 14453
Ireland	1800 509359	Switzerland	08488 50112
Israel	1800 943 2632	U.K.	0870 241 3901
Italy	199 161346		

Country	Telephone Number	Country	Telephone Number
Latin America			
Antigua	1 800 988 2112	Guatemala	AT&T +800 998 2112
Argentina	0 810 444 3COM	Haiti	57 1 657 0888
Aruba	1 800 998 2112	Honduras	AT&T +800 998 2112
Bahamas	1 800 998 2112	Jamaica	1 800 998 2112
Barbados	1 800 998 2112	Martinique	571 657 0888
Belize	52 5 201 0010	Mexico	01 800 849CARE
Bermuda	1 800 998 2112	Nicaragua	AT&T +800 998 2112
Bonaire	1 800 998 2112	Panama	AT&T +800 998 2112
Brazil	0800 13 3COM	Paraguay	54 11 4894 1888
Cayman	1 800 998 2112	Peru	AT&T +800 998 2112
Chile	AT&T +800 998 2112	Puerto Rico	1 800 998 2112
Colombia	AT&T +800 998 2112	Salvador	AT&T +800 998 2112
Costa Rica	AT&T +800 998 2112	Trinidad and Tobago	1 800 998 2112
Curacao	1 800 998 2112	Uruguay	AT&T +800 998 2112
Ecuador	AT&T +800 998 2112	Venezuela	AT&T +800 998 2112
Dominican Republic	AT&T +800 998 2112	Virgin Islands	57 1 657 0888
North America			
	1 800 876 3266 phone		
From U.S.A and Canada call:	1 508 323 6061 fax (not toll free)		

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REGULATORY NOTICES

FCC STATEMENT

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference to radio communications, in which case the user will be required to correct the interference at their own expense.

INFORMATION TO THE USER

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna.
- Relocate the equipment with respect to the receiver.
- Move the equipment away from the receiver.
- Plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

How to Identify and Resolve Radio-TV Interference Problems

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

In order to meet FCC emissions limits, this equipment must be used only with cables which comply with IEEE 802.3.

CSA STATEMENT

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

CE STATEMENTS (EUROPE)

This product complies with the European Low Voltage Directive 73/23/EEC and EMC Directive 89/336/EEC as amended by European Directive 93/68/EEC.

Warning: This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

You must only insert a 3Com approved GBIC transceiver into the Switch. These are listed in the "Approved GBIC Transceivers" section of the Getting Started Guide.

VCCI STATEMENT

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

BSMI STATEMENT

警告使用者：這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

